

**ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION**

EA Number: CA-650-2004-40

**Deep Springs, South Oasis,
and Eureka Valley Allotments**

**Bureau of Land Management
Ridgecrest Field Office
January 16, 2007**

TABLE OF CONTENTS

| | |
|--|-----------|
| 1. CHAPTER 1: INTRODUCTION | 4 |
| A. Summary | 4 |
| B. Background | 4 |
| C. Tiering to Existing Land Use Plan/EIS | 5 |
| D. Purpose and Need for the Proposed Action | 6 |
| E. Plan Conformance | 6 |
| F. Voluntary Relinquishment | 7 |
| G. Consultation, Cooperation & Coordination, & Participating Staff | 7 |
| H. Relationship to Statutes, Regulations, & Plans | 8 |
| 2. CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES | 8 |
| A. Proposed Action | 8 |
| B. No Action Alternative | 15 |
| C. No Grazing Alternative | 17 |
| 3. CHAPTER 3 – ENVIRONMENTAL ANALYSIS | 17 |
| A. Livestock Grazing | 17 |
| B. Air Quality | 19 |
| C. Biological Soil Crusts | 19 |
| D. Cultural Resources | 20 |
| E. Environmental Justice | 23 |
| F. Farmlands, Prime Or Unique | 23 |
| G. Flood Plains | 24 |
| H. Invasive, Non-Native Species | 24 |
| I. Native American Concerns | 26 |
| J. Recreation | 27 |
| K. Social & Economic Values | 28 |
| L. Soils | 28 |
| M. Special Status Plants Species | 30 |
| N. Waste, Hazardous Or Solid | 30 |
| O. Water Quality | 31 |
| P. Wetlands/ Riparian Zones | 34 |
| Q. Wild And Scenic Rivers | 34 |
| R. Wilderness | 35 |
| S. Wild Horses And Burros | 36 |
| T. Wildlife | 38 |
| U. Vegetation | 42 |
| V. Cumulative Impacts | 45 |

| | |
|--|-----------|
| 4. APPENDIX 1 – ALLOTMENT MAP | 49 |
| 5. APPENDIX 2 – CONSULTATION, COOPERATION, & COORDINATION | 51 |
| 6. APPENDIX 3 - PROPER USE FACTORS | 54 |
| 7. APPENDIX 4 – RANGE IMPROVEMENTS | 58 |
| 8. APPENDIX 5 – LIVESTOCK GRAZING AMENDMENT | 62 |
| 9. REFERENCES | 68 |

CHAPTER 1: INTRODUCTION

A. Summary

The Bureau of Land Management (BLM) is proposing to issue three 10-year leases for the allotments listed below to authorize livestock grazing in accordance with law and policy described in the Purpose and Need section below. The following is a summary of the current situation:

| Allotment | Public Land Acres | Kind/ Class | Ac of Critical Habitat | Season of Use | Number of AUMs |
|---------------|-------------------|----------------------|------------------------|----------------|-------------------------------|
| Deep Springs | 39,527 | Cow/calf Cow/calf | None | 12/1 to 5/31 | 1250 |
| South Oasis | 14,527 | Cow/calf | None | 4/1 to 10/31 | 476 |
| Eureka Valley | 15,975 | Cow/calf | None | Ephemeral Only | Variable, depending on forage |

The Deep Springs allotment encompasses approximately 39,527 acres BLM land and approximately 5,019 acres non-BLM lands. The allotment is located in Inyo County, California. Elevation range is between 4,920 feet and 6,888 feet.

The South Oasis allotment encompasses approximately 14,599 acres BLM land and approximately 1,210 acres non-BLM lands. The allotment is located in Inyo County, California. Elevation range is between 5,071 feet and 7,703 feet.

The Eureka Valley allotment encompasses approximately 15,975 acres BLM land and 910 acres of non-BLM land. The allotment is located in Inyo County, California. Elevation range is between 3,028 feet and 6,068 feet.

See Appendix 1 for map of allotments.

B. Background

In 2000, three (3) grazing leases for the Deep Springs, South Oasis, and Eureka Valley allotments for domestic cattle operations expired at the end of the 1999 grazing year (2/28/00). These three grazing leases were renewed under the authority of Public Law 106-113. The duration of the grazing leases were for ten years and contained the same terms and conditions as the expiring grazing leases. Public Law 106-113 required compliance with all applicable laws and regulations, which include the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Following the analysis of the environmental impacts these grazing leases maybe approved, canceled, suspended or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

The Bureau of Land Management (BLM) is proposing to issue a ten-year term length grazing leases on the Deep Springs, South Oasis, and Eureka Valley allotments to authorize perennial cattle grazing on public lands within the jurisdiction of the Ridgecrest Field Office

C. Tiering to Existing Land Use Plan/EIS

This EA is tiered to the NEMO Final EIS of (January 2002) and provides site-specific analysis on the allotment level. Tiering helps focus this EA more sharply on the significant issues related to grazing on these allotments while relying on the NEMO analysis for background. Analysis of environmental issues previously considered and addressed in the NEMO plan will be incorporated by reference. The site-specific issues analyzed for these allotments, as well as the issues that are incorporated by reference but will not be analyzed in detail, are identified in chapter 3 of this EA.

A summary of the analysis tiered in this EA is as follows:

1. NEMO is an amendment to the California Desert Conservation Area (CDCA) Plan developed expressly to address special status plant and animal species and to establish conservation strategies for those species within the multiple use context required for the CDCA by section 601 of the Federal Land Management and Policy Act (FLPMA). As part of the conservation strategy BLM determined which public lands will be available or unavailable for livestock grazing. Livestock grazing in the CDCA is an economic resource of public lands recognized in section 601 of FLPMA. In addition to designating lands available or unavailable for grazing, NEMO/NECO/WEMO established programmatic management prescriptions including regional land health standards and guidelines for grazing management; and utilization prescriptions for perennial species. This EA analyzes the specific application of the programmatic management prescriptions of NEMO and considers alternative means to achieve the purpose and need on these allotments as described in section C of this chapter.
2. This EA analyzes the range of alternatives for grazing consistent with NEMO, including a proposed action and continuation of current management (No Action). A no grazing alternative is considered to address voluntary relinquishment and subsequent designation of the allotment as unavailable for grazing. Chapter 2 of this EA describes the alternatives analyzed in detail and identifies the alternatives considered but dismissed from detailed consideration.
3. Impacts of livestock grazing were addressed at a regional level in NEMO. Analysis addressed the impacts of livestock grazing on a wide range of resource topics, including impacts to air quality, soil, vegetation, wildlife, cultural resources, wilderness, and socio-economic impacts. The regional analysis is incorporated by reference in this EA (pg 3-24 through 3-29 & 4-141, NEMO FEIS) but general discussion of these impacts will not be repeated. The EA analysis will sharply focus on the specific environmental issues associated with areas where livestock congregate on the allotment, specific areas of the allotment which are not meeting land health standards due to grazing, and areas of special status species or critical habitat that may be adversely affected by grazing on this allotment. Discussion of the specific topics analyzed in this EA, as well as other resource topics addressed regionally but that will be excluded from further analysis in the EA, is contained in chapter 3.
4. NEMO balances conservation with public use, occupancy, and development on a regional level. For example, Areas of Critical Environmental Concern/DWMAs are established, routes of travel on public lands designated open, limited or closed to motorized vehicles, and other management prescriptions are provided to guide multiple use management. Within the context of the CDCA Plan

as amended by NEMO, BLM is proposing specific lease terms and conditions to ensure that an appropriate multiple use balance is maintained on these allotments while providing for conservation in accordance with NEMO and the associated biological opinion. In addition, BLM may use its authority to close an area of the allotment to grazing use or take other measures to protect resources if needed. Therefore, issuance of a fully processed grazing lease with such applicable terms and conditions is necessary to manage the public's use, occupancy, and development of the public lands and prevent unnecessary or undue degradation of the lands. (43 USC 1732(b)).

D. Purpose and Need for the Proposed Action

The purpose of the proposed action is to complete a site-specific evaluation of grazing which provides information as required by the Bureau of Land Management implementing regulations for the National Environmental Policy Act, Taylor Grazing Act, Public Rangelands Improvement Act, Federal Land Policy and Management Act, and Public Law 106-113 section 325 to determine whether to authorize grazing within these allotments and whether changes are necessary to current management of the allotments.

The need for the proposed action is to authorize grazing in compliance with the actions prescribed in the NEMO, dated July 2002, the Biological Opinion of the California Desert Conservation Area Plan, dated March 31, 2005, and the proposed Regional Rangeland Health Standards. Action is needed to maintain or improve resource conditions including rangeland health.

E. Plan Conformance

The proposed action is subject to the California Desert Conservation Area Plan (CDCA Plan) 1980 as Amended (August 1999). The proposed action has been determined to be in conformance with this plan as required by regulation (43 CFR §1610.5-3(a)). The proposed action would occur in areas identified for livestock grazing as indicated in the Livestock Grazing Element in the CDCA Plan 1980 (1999), pages 56 to 68. The proposed action is consistent with the land use decisions, and goals and objectives listed in the CDCA Plan. The proposed action is consistent with the CDCA Plan Amendment for the Northern and Eastern Mojave Plan (NEMO) as prescribed in section 2.0, (pages 2-29 through 2-39)

The South Oasis allotment does meet the Secretary of Interior Approved Rangeland Health Standards as follows. As the table below indicates cattle are not a reason for not fully meeting Rangeland Health Standards. About half the Rangeland Health Assessments have been completed for Deep Springs allotment but no determination has been written. The Eureka Valley allotment has not been assessed.

| Rangeland Health Standard | Meets Standard | Does Not Meet Standard | Impacts from Livestock Yes or No | Remarks |
|---|-----------------------|-------------------------------|---|----------------|
| South Oasis--- Soil Permeability | Met | | | |
| Riparian/Wetland | Met | | | |

| | | | | |
|--------------------------|-----|---------|----|---|
| | | | | |
| Stream Morphology | Met | | | |
| Native Species | | Not Met | No | Not met because of Tamarisk--- Cattle grazing is not a reason for occurrence. |

Assessment determination completed September 7, 1999 for South Oasis allotment.

Rangeland Health Fall Back Standards and Guidelines for Livestock Grazing remain in effect until CDD S&G are approved by Secretary.

F. Voluntary Relinquishment

NEMO does not identify these allotments for voluntarily relinquishment. A lessee may request voluntary relinquishment of their permit at any time. Because these allotments were not identified for voluntary relinquishment however, a plan amendment will be required for subsequent designation of the allotments as unavailable for livestock grazing. If BLM determines that an amendment is not warranted, the allotments will remain available for livestock grazing and BLM will consider new applications for permits by qualified applicants.

G. Consultation, Cooperation & Coordination & Participating Staff

1. Public Participation & CCC

Consultation, Coordination, and Cooperation with Affected Interests groups, Interested Public groups, and other Government Agencies has taken place from the spring of 2004 through the present in the summer of 2006. This environmental assessment was not being worked on in 2005, therefore, no CCC is recorded for that year. The Affected Interest group consisted primarily of lessee and no response has been forthcoming from them. Government agencies included the US Fish and Wildlife Service, the California Department of Fish & Game, and the California State Lands Commission. To date, only the CDF&G has responded and that was to individual specialists who had specific questions. The CDF&G has not responded to the full environmental assessment document. Interested public groups to which the document was submitted included environmental groups and a few individuals. Initially, the Desert Tortoise Preserve Committee, The California Native Plant Society, The Western Watersheds Project and The Center for Biological Diversity responded with comments. However, as of the April 2006 mailing, only the Western Watersheds Project and the Center for Biological Diversity have responded (see Appendix 2 for chronology of Consultation, Coordination, and Cooperation).

Participating staff:

| Name | Title | Specialty |
|----------------|-----------------------------|-----------------------------------|
| David Sjaastad | Resources Branch Chief | Interdisciplinary Team Leader |
| Sam T. Fitton | Natural Resource Specialist | Grazing Management |
| Donald Storm | Archeologist | Cultural, Native American, & ACEC |

| | | |
|---------------|-------------------------------|-------------------------------|
| Glenn Harris | Natural Resource Specialist | Botany, Soil, Air, and Water |
| Shelley Ellis | Wildlife Biologist | Riparian & Wildlife |
| Alex Niebergs | Wild Horse & Burro Specialist | Wild Horse & Burro Management |
| Craig Beck | Recreation Specialist | Recreation |
| Martha Dickes | Wilderness Specialist | Wilderness |
| Peter Graves | NEPA | |

H. Relationship To Statutes, Regulations And Plans

1. State Historic Preservation Office Protocol Amendment for Renewal of Grazing Leases

In August 2004, the State Director, California Bureau of Land Management and the California State Historic Preservation Officer (SHPO) addressed the issue of the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing grazing permit/lease renewals for livestock as defined in 43 CFR 4100.0-5. The State Director and the SHPO amended the 2004 State Protocol Agreement between California Bureau of Land Management and the SHPO with the 2004 Grazing Amendment, Supplemental Procedures for Livestock Grazing Permit/Lease Renewal (see Appendix 5).

This amendment allows for the renewal of existing grazing permits/leases as long as the 2004 State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and monitoring stipulations are followed.

The lessee would comply with any future standard protective measures that may be developed for the protection of cultural resources after the completion of further allotment inventory and determination of any additional protection measure needs for significant cultural resources.

CHAPTER 2

PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

The proposed action consists of authorizing cattle grazing on the Deep Springs, South Oasis, and Eureka Valley allotments, under three grazing leases, each for a term of 10 years. Deep Springs College is the lessee for Deep Springs, South Oasis, and Eureka Valley allotments. In addition, the current season of use and permitted use, including management actions and stipulations stated below would also be included in these grazing permits.

1. Livestock Numbers and Season of Use

| Allotment | Number | Kind | Class | From | To | AUMs |
|--------------|--------|--------|----------|------|------|------|
| Deep Springs | 104 | Cattle | Cow/calf | 3/1 | 2/28 | 1250 |
| South Oasis | 39 | Cattle | Cow/calf | 3/1 | 2/28 | 476 |

| | | | | | | |
|---------------|-----|--------|----------|--------------------|-------|-------------------------------|
| Eureka Valley | N/A | Cattle | Cow/calf | 4/1 Ephemeral Only | 10/31 | Variable, depending on forage |
|---------------|-----|--------|----------|--------------------|-------|-------------------------------|

2. Livestock Management

A map of these allotments is contained in Appendix 1.

All three allotments are leased to Deep Springs College which uses cattle ranching as part of their educational curriculum. The Deep Springs Allotment presently consists of five (5) pastures and the South Oasis Allotment is a smaller allotment which is used as a sixth pasture. Eureka Valley Allotment is used for ephemeral grazing and has only been used twice in the last 13 years. Of the 5 pastures associated with the Deep Springs Allotment, one, the Mid-East pasture is very large and it is proposed to split this pasture in half which would add a seventh pasture to the rotation. In addition to BLM land, Deep Springs College has private pasturage in the valley and holds a lease for a National Forest Service allotment in Inyo National Forest. All together there would be seven (7) BLM public land pastures, plus private pasturage, and a Forest Service Allotment available for grazing.

It is proposed that the season of use on both the South Oasis Allotment and the Deep Springs Allotment be extended to encompass year-round grazing. The number of AUMs would remain the same but the lessee would be able to choose a season of use that is compatible with the pasture rotation rather than being confined to spring, summer, and early fall use in the case of South Oasis Allotment and to winter and spring use in the case of Deep Springs Allotment

The North Pasture is likely to be used during the calving season in most years, but only for a short time. The Forest Service Allotment is only available during the summer. If the Mid-East Pasture is split this leaves six BLM public lands pastures (including South Oasis Allotment) and a private pasture to put into a best pasture rotation that is not encumbered by specific seasons of use. Since only four or in some years five pastures (i.e. drought years) are used each year this would leave two or three pastures to be rested in any one year and alleviates the need to revisit these pastures at the same time of year each year.

Deep Springs Allotment

Historically there is moderate (40-60% use) cattle activity around the windmill in the center of the valley but this is privately owned. The rest of the cattle activity on the allotment is light (< 40% use). However, a polygon stretching from the southern boundary of the college's base property, south along the eastern edge of valley to about a mile north of Deep Springs Lake, then west to the foothills where the highway goes up the canyon into the White Mountains, and back north along the western edge of valley receives the bulk of the use (20-40%). Water is provided through springs and wells.

South Oasis

Historically, the mountainous area of the allotment has received only slight or no use. This is the area southwest of Eureka Valley Road. In some years the area around One Tubb Spring has received light use (< 40% use). This is an area of low or dispersed cattle activity. The area to the northeast of

Eureka Valley Road is out on the flats and has polygons of moderate use (40-60% use) around watering sources that occur midway down Eureka Valley Road and in the far northeast corner of the allotment. These are areas of moderate and high (>60% use) cattle activity. Water is provided by wells.

Eureka Valley

Ephemeral allocations are determined on a yearly basis. Allocations would follow the guidelines in the CDCA Plan as amended and repeated in the allotment management plan (AMP) for the allotment. The procedure includes the use of an interdisciplinary team and clipping to determine if there is adequate forage production for wildlife, wild horses and burros and the livestock. The CDCA Plan requires achieving 200 Lbs./ acre of ephemeral production prior to turn out and the maintenance of that minimum production throughout the grazing season. Monitoring proposed in the AMP includes the ephemeral clipping and utilization studies (on perennial species). Though low in altitude, it is a remote allotment, not easily accessed, and has no water improvements. Eureka Valley Allotment has been grazed twice in the last 13 years. Traditionally it is used in conjunction with one use area in the South Oasis Allotment and there is no fence separating the two allotments. If the rancher on South Oasis Allotment defers his spring use until June, there is a likelihood that Eureka Valley will see only sporadic use unless a decided effort is made to push cattle into the allotment during years of good ephemeral forage.

3. Range Improvements

The range improvements for Deep Springs and South Oasis allotments are listed in Appendix 4. There are no range improvements on the Eureka Valley Allotment.

There are four new projects proposed for these allotments. They are:

- a. Deep Springs College would like to split Mid-East Pasture, on Deep Springs Allotment, which is very large and has 5 watering sites. This requires a fence running east and west across the pasture with an enclosure at the windmill which would serve as a water source in both pastures. The windmill is on private property. There would be a removable electric fence for about 100 yards where the fence goes into a wilderness area on the east side. This would put 8 pastures (including South Oasis Allotment & private pasturage below Deep Springs Lake) in their pasture rotation system enabling them to rest at least two pastures in any given year. The College is willing to supply both labor and materials for this project.
- b. On the South Oasis Allotment there is an existing well that has never been completely developed and the college is proposing to make it functional with a submersible pump powered by solar panels, thus adding another water source and helping to ease grazing pressure at the north end of the allotment. It would also ease pressure at the windmill watering site, and enable the mountainous area of the allotment to be used.
- c. A third possible project, at Antelope Spring in the Deep Springs Allotment, involves the protection of wildlife habitat that is a wetland riparian area from disturbance by cattle. This involves the construction of a fence for about an eighth of a mile on either side of the drainage from Antelope Spring below a grove of locust trees to keep cattle from trampling black toad habitat. However, it is possible that the black toad benefits from some cattle activity and this project will require further consideration in order to determine just what the needs of the black toad are.

d. A fourth possible project is to fence the sand dunes in Mid-East pasture to protect the habitat of the *Cardiophorus* dune obligate insect.

All four projects will require a future, site specific analysis and NEPA action.

4. Measures to Maintain or Achieve Standards (Additional Terms and Conditions of Permit)

None

5. Monitoring

The rangeland monitoring of the four allotments is currently in three categories. These categories are 1) short term monitoring, 2) long term monitoring, and 3) interpreting the indicators of rangeland health through an allotment assessment.

The use of short term monitoring is a tool to gauge the cause and effect of the current authorization. This type of monitoring consists of actual use, current climatic conditions and the collection of utilization data. This type of data would be collected on a yearly basis at minimum. The collection of utilization data should be triggered by the growing season of key species and correlate with the phenology of key species. Utilization studies are collected from within two weeks from the end of the grazing period to prior to the on-set of new spring growth the following year.

The collection of long term monitoring data typically occurs every ten years. The collection of trend data, both photo and measured trend is used to determine long term cause and effect of long term grazing strategies. The collection of measured trend has typically been accomplished through the collection of frequency data at key areas.

6. Regional Rangeland Health Standards

The collection of indicators of rangeland health information is a qualitative method that requires the formation of an interdisciplinary team that makes observations of various indicators to determine the health of rangelands and the achievement of regional standards of rangeland health. This process is also considered a long term, and typically occurs every ten years.

With the recent approval of the Northern and Eastern Mojave Plan amendment (NEMO) the following Standards & Guidelines are incorporated into the grazing permit/lease and management practices. Rangeland health inventory studies will be conducted and a Determination made, prior to the renewal of the next grazing permit/lease.

Implementation of the regional standards listed below cannot occur until the Secretary of the Interior approves them. Until that time, the nationally developed fallback standards and guidelines would continue as the basis for public land health. Once the regional standards and guidelines are approved, they will be incorporated into the terms and conditions without further notice.

Standards:

Soil

Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate geology, landform, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil

moisture necessary for optimal plant growth and vigor, and provide a stable watershed as indicated by:

- Canopy and ground cover are appropriate for the site
- There is diversity of plant species with a variety of root depths
- Litter and soil organic matter are present at suitable sites
- Maintain the presence of micro biotic soil crusts that are in place
- Evidence of wind or water erosion does not exceed natural rates for the site
- Hydrologic and nutrient functions maintained by permeability of soil and water infiltration are appropriate for precipitation

Native Species

Healthy, productive and diverse habitats for native species, including special status species (Federal T&E, federal proposed, federal candidates, BLM sensitive, or California State T&E, and CDD UPAs) are maintained in places of natural occurrences as indicated by:

- Photosynthetic and ecological processes continue at levels suitable for the site, season, and precipitation regimes
- Plant vigor, nutrient cycle, and energy flow are maintaining desirable plants and ensuring reproduction and recruitment
- Plant communities are producing litter within acceptable limits
- Age class distribution of plants and animals are sufficient to overcome mortality fluctuations
- Distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events
- Alien and noxious plants and wildlife do not exceed acceptable levels
- Appropriate natural disturbances are evident
- Populations and their habitats are sufficiently distributed to prevent the need for listing special status species

Riparian/Wetland and Stream Function

Wetland systems associated with subsurface, running, and standing water, function properly and have the ability to recover from major disturbances. Hydrologic conditions are maintained as indicated by:

- Vegetative cover will adequately protect banks, and dissipate energy during peak water flows
- Dominant vegetation is an appropriate mixture of vigorous riparian species
- Recruitment of preferred species is adequate to sustain the plant community
- Stable soils store and release water slowly
- Plants species present indicate soil moisture characteristics are being maintained
- There is minimal cover of invader/shallow-rooted species, and they are not displacing deep-rooted native species
- Maintain shading of stream courses and water sources for riparian dependent species
- Stream is in balance with water and sediment being supplied by the watershed
- Stream channel size and meander is appropriate for soils, geology, and landscape
- Adequate organic matter(litter and standing dead plant material) is present to protect the site and to replenish soil nutrients through decomposition

Water Quality

Water quality will meet state and federal standards including exemptions allowable by law as indicated by:

- Aquatic organisms and plants (e.g., macro invertebrates, fish and algae) indicate support of beneficial uses.
- Conformance to the applicable requirements for chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolve oxygen.
- Achievement of the standards for riparian, wetlands, and water bodies.
- Monitoring results or other data that show water quality is meeting standards.

Proposed Regional Guidelines for Grazing Management: These following guidelines are used to maintain and/or improve rangeland health.

Resource conditions of each allotment will be routinely assessed to determine if Public Land Health Standards are being met. In those areas not meeting a Standard, monitoring processes will be established if they do not presently exist to monitor indicators of health until the Standard or resource objective has been attained. Activity plans for other uses or resources that overlap an allotment could have prescribed resource objective that may further constrain grazing activities, e.g., ACEC Plans. In an area where a Standard has not been met, the results of monitoring the modification or implementation of grazing management actions will be reviewed annually. During the final phase of the assessment process, the Determination will schedule the next assessment of resource conditions. A livestock trailing network, grazed plants, livestock facilities, and animal waste are expected impacts in all grazing allotments and will be considered during analysis of the assessment/monitoring process. To attain Standards and resource objectives, the best available science will be used to determine appropriate grazing management actions. Cooperative funding and assistance from other agencies, individuals, and groups will be sought to collect prescribed monitoring data for indicators of each Standard.

- Facilities are to be located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland functions.
- The development of springs and seeps or other projects affecting water and associated resources will be designed to protect the ecological functions and processes of those sites.
- Grazing activities at an existing range improvement that conflict with achieving proper functioning conditions (PFC) and resource objectives for wetland systems (lentic, lotic, springs, adits, and seeps) will be modified so PFC and resource objectives can be met, and incompatible projects will be modified to bring them into compliance. The BLM will consult, cooperate, and coordinate with affected interests and livestock producer(s) prior to authorizing modification of existing projects and initiation of new projects. New range improvement facilities are to be located away from wetland systems if they conflict with achieving or maintaining PFC and resource objectives.
- Supplements will be located well away from wetland systems so they do not conflict with maintaining riparian wetland functions.
- Management practices will maintain or promote perennial stream channel morphology (e.g., gradient, width/depth ratio, channel roughness, and sinuosity) and functions that are appropriate to climate and landform.
- Grazing management practices are to meet State and Federal water quality standards. Where impoundments (stock ponds) and troughs that have a sustained discharge yield of less than

200 gallons per day to surface or groundwater are exempted from meeting State drinking water standards per SWRCB Resolution Number 88-63.

- In the California Desert Conservation Area all wildfires in grazing allotments will be suppressed. However, to restore degraded habitats infested with invasive weeds (e.g., tamarisk) prescribed burning may be utilized as a tool for restoration on a case-by-case basis. Prescribed burns may be used as a management tool for chaparral plant communities in the South Coast Region, where fire is a natural part of the regime.
- When climatic conditions and space allow, seedling establishment of native species will be allowed by modifying grazing use.
- Grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.
- During prolonged drought, range stocking will be reduced to scientifically based carrying capacity, based on climatic conditions. Livestock utilization of key perennial species on year-long allotments will be checked about March 1 when the Palmer Severity Drought Index/Standardized Precipitation Index indicates dry conditions are expected to continue.
- Through the assessment process or monitoring efforts, the extent of invasive and/or exotic plants and animals will be recorded and evaluated for future control measures. Methods and prescriptions will be implemented, and an evaluation will be completed to ascertain future control measures for undesirable species.
- Restore, maintain or enhance habitats to assist in the recovery of federally listed threatened and endangered species. Restore, maintain or enhance habitats of special status species including Federal proposed, Federal candidates, BLM sensitive, or California State T&E to promote their conservation.
- Grazing activities will support biological diversity across the landscape, and native species and microbiotic crusts are to be maintained.
- Experimental and research efforts will be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities.
- Livestock utilization limits of key perennial species would be as shown in the table below for various range types

| Table 1 -- Range Type | Percent Use of Key Perennial Species | |
|----------------------------------|---|--|
| | Poor-Fair Range Condition or Growing Season | Good-Excellent Range Condition or Dormant Season |
| Mojave Sonoran scrub | 25 | 40 |
| Salt Desert shrub land | 25 | 35 |
| Semi-desert grass and shrub land | 30 | 40 |
| Sagebrush grassland | 30 | 40 |
| Mountain shrub land | 30 | 40 |

(Table copied from NEMO FEIS of July 2002, page 2-9)

Table 1, above, is applicable for measuring utilization on an association of key perennial forage species for various range types based upon the condition class of the range or the season of the year. However, utilization transects conducted by Ridgecrest field staff measure specific use of individual plant species and are not averaged. Therefore, Table 2, below, lists the proper use factors (P.U.F.'s that correspond to Percent Use) for the individual perennial forage species found on the Deep

Springs and South Oasis allotments that are also represented in the range types in Table 1. (P.U.F.'s are found in the CDCA Plan of 1980.)

Since the grazed areas in Deep Springs and South Oasis allotments are partially inclusive of the range types listed in the Table 1 the Ridgecrest FO proposes to limit grazing in the spring growing season to a maximum of 25% utilization, and during the dormant season utilization will be limited to a maximum of 40%.

| Table 2---Deep Springs & South Oasis Perennial Forage Species and P.U.F.'s | | | | |
|--|------------------------|-----------------|------------------------|------------------------|
| Shrubs | Common Name | CDCA P.U.F. (%) | Growing Season 25% max | Dormant Season 40% max |
| <i>Artemisia spinescens</i> | Budsage | 20 | 20 | 20 |
| <i>Atriplex canescens</i> | Four Wing Saltbush | 40 | 25 | 40 |
| <i>Graya spinosa</i> | Spiny Hopsage | 30 | 25 | 30 |
| <i>Krascheninnikovia lanata</i> | Winter Fat, White Sage | 40 | 25 | 40 |
| <i>Menodora spinescens</i> | Spiny Menodora | 20 | 20 | 20 |
| <i>Ephedra nevadensis</i> | Mormon Tea | 30 | 25 | 30 |
| Grasses | | | | |
| <i>Achnatherum hymenoides</i> | Indian Rice Grass | 50 | 25 | 40 |
| <i>Sitanion hystrix</i> | Squirrel Tail | 40 | 25 | 40 |

B. NO ACTION ALTERNATIVE

This alternative consists of maintaining current management practices.

1. Livestock Numbers and Season of Use

| Allotment | Livestock Number | Livestock Kind | Season of Use | AUMs |
|---------------|--------------------------|----------------|-------------------------|-------------------------------------|
| Deep Springs | 250 | Cattle | 3/1 - 5/31 | 756 |
| | 167 | Cattle | 12/1 - 2/28 | 494 |
| South Oasis | 69 | Cattle | 4/1 - 10/31 | 476 |
| Eureka Valley | Determined by monitoring | Cattle | 4/1 - 10/31 (Ephemeral) | Variable – determined by monitoring |

2. Livestock Management

Deep Springs Allotment currently has five pastures on public land available for grazing. These pastures are North, Mid-West, Mid-East, South, and Antelope Springs. These pastures are used in rotation from 12/1 through 5/31, with at least two receiving rest or very short-term use during any one grazing year. In the summer cattle move to South Oasis Allotment or to a Forest Service Allotment. From mid-September through November 30th the cattle are in private pastures.

A typical rotation is to begin the year in the South Pasture for five weeks, then move to the Mid-East pasture for another five weeks, then move to Mid-West pasture for two weeks, then to North pasture for two weeks through the branding time and then back to Mid-West pasture for three weeks then to private pasture until summer grazing. This gives complete rest to the Antelope Pasture and partial rest to the North Pasture. During the winter season the younger cattle are kept on the ranch on grown feed.

3. Range Improvements

Same as for the Proposed Action

4. Measures to Maintain or Achieve Standards

None

5. Monitoring

Same as for the Proposed Action

6. Fallback Rangeland Health Standards and Guidelines

These are the Fall Back Standards and Guidelines which will be in effect until the Secretary of Interior signs the new Regional Standards and Guidelines.

43 CFR 4180.2 Standards and Guidelines for Grazing Administration

(1) Fallback standards.

- (i) Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.
- (ii) Riparian – wetland areas are in properly functioning condition.
- (iii) Stream channel morphology (including but not limited to gradient width/depth ratio, channel roughness and sinuosity) and functions are appropriate for climate and landform.
- (iv) Healthy, productive and diverse populations of native species exist and are maintained.

(2) Fallback Guidelines

- (i) Management practices maintain or promote adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils;
- (ii) Management practices maintain or promote soil conditions that support permeability rates that are appropriate to climate and soils;
- (iii) Management practices maintain or promote sufficient residual vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge, and stream bank stability;
- (iv) Management practices maintain or promote stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions that are appropriate to climate and landform;

- (v) Management practices maintain or promote the appropriate kinds and amounts of soil organisms, plants and animals to support the hydrologic cycle, nutrient cycle, and energy flow;
- (vi) Management practices maintain or promote the physical and biological conditions necessary to sustain native populations and communities;
- (vii) Desired species are being allowed to complete seed dissemination in 1 of every 3 years (Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow.);
- (viii) Conservation of Federal threatened or endangered, Proposed, Category 1 and 2 candidate, and other special status species is promoted by the restoration and maintenance of their habitats;
- (ix) Native species are emphasized in the support of ecological function;
- (x) Non-native plant species are used only in those situations in which native species are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health;
- (xi) Periods of rest from disturbance or livestock use during time of critical plants growth or re-growth are provided when needed to achieve healthy, properly functioning conditions (The timing and duration of use periods shall be determined by the authorized officer.);
- (xii) Continuous, season-long livestock use is allowed to occur only when it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems.
- (xiii) Facilities are located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function;
- (xiv) The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites; and grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.

C. NO GRAZING ALTERNATIVE

This alternative would not renew the leases on all three of the allotments. As a result, grazing would not continue in these areas. This would be a permanent change. The BLM would initiate a process in accordance with the 4100 regulations to permanently eliminate grazing on the allotments.

CHAPTER 3: ENVIRONMENTAL ANALYSIS

A. Livestock Grazing

1. Affected Environment

The Deep Springs Allotment is a perennial cattle grazing allotment of 44,546 acres comprised of 5,019 acres non-BLM land and 39,527 acres of BLM land. Piper Mountain Wilderness has 7,707 acres within the allotment boundaries. Grazing occurs during two seasons of the year, winter and spring. During the winter season (December-February) the rancher has 494 AUMs and during the

spring season (March-May) he has 756 AUMs for a total of 1250 AUMs annually. The allotment is divided into 5 pastures and the rancher rotates his cattle through the pastures allowing nine months of rest minimum between uses. During the last 13 years Deep Springs Allotment has been grazed at or below the maximum number of AUMs in nine years and been allocated 50-200 extra AUMs when ephemeral forage is available in four years. The rancher has taken “non-use” twice.

The South Oasis Allotment is a perennial cattle grazing allotment of 15,809 acres comprised of 1,210 acres of non-BLM land and 14,599 acres of BLM land. The current allocation is 476 AUMs and grazing management is a deferred rotation strategy, specifically described in section VI of the South Oasis and Eureka Valley Allotment Management Plan. Within this allotment, 65 AUMs for wild horses and 223 AUMs for burros, have been set aside for their management. Piper Mountain and Sylvania Mountain wilderness areas have a total of 9,826 acres within the allotment boundaries. Traditionally, the season of use has been from spring through early fall (April-October) with 476 AUMs assigned. In the last 13 years this allotment has been entirely rested twice, and never grazed more than the permitted number of AUMs.

The Eureka Valley Allotment is an ephemeral cattle grazing allotment of 16,885 acres comprised of 910 acres of non-BLM land and 15,975 acres of BLM land. There are 16,085 acres of the Piper Mountain Wilderness within the allotment boundaries. As an ephemeral allotment it is only designated for use when ephemeral forage is available. Topographically the Piper Mountains border the allotment to the north and most of the allotment consists of gently sloping alluvial pavement at the northern end of Eureka Valley. Death Valley National Park borders the allotment on the south side.

2. Environmental Consequences

a. Impacts of the Proposed Action

The impacts of the Proposed Action alternative are that the proposed range improvements would improve the flexibility in distributing cattle. Extending the grazing season on South Oasis Allotment would allow more flexibility in the use of the allotment within the grazing rotation and thus take the pressure off using the allotment primarily in the summer months. The new well in the South Oasis Allotment would distribute the cattle more evenly or provide another focus for cattle activity whereby cattle could be attracted to different use areas within the allotment at different periods of time and thus distribute use of forage. Thus, cattle would not necessarily concentrate all the time in one or two areas. The fence dividing Mid-East Pasture into two pastures puts another pasture in the grazing rotation and allows the lessee to rest more land for longer periods of time.

b. Impacts of No Action

The use patterns and flexibility of grazing would remain the same as they are currently.

c. Impacts of No Grazing

Impacts from cattle would recover over time, no new range improvement structures would be built.

3. Consultation

Ken Mitchell, Ranch Manager of Deep Springs College, personal communication

B. AIR QUALITY

1. Affected Environment

Air pollutants occur as gaseous and particulate matter that is emitted into the air. Air pollutants are very fleeting in the desert due to the constant air movement. Moving air constantly disperses air pollutants from their source and dilutes them. In addition, the interaction between pollutants, affects of moisture and sunshine generally modify most pollutants over time. Some form particulates and fall as dry deposition others fall with the rain. The air pollutants don't remain in the area of the source and accumulate over time (ARB 2001a and 2003a, Calkins 1994, DeSalveo 2003, Ono 2000, Paxton 1993, SCAQMD 1993b and USDI BLM 1999a, 2001 and 2006a). All of the allotment falls within the Great Basins Valleys Air Basin. The Great Basin Unified Air Pollution Control District (GBUAPCD) has state air quality jurisdiction over the project area. Air quality throughout the allotment area is generally good. There are, however, times that portions of the area have not meet state air quality standards for PM₁₀ due to locally generated and/or transported in pollutants.

2. Environmental Consequences:

a. Impacts of the Proposed Action:

Fugitive dust could occur due to the soil disturbance as a result of the trampling action of the cattle when soil moisture levels are low. Support vehicle use on the access roads will generate small amounts of PM₁₀ emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment emissions. PM₁₀ emissions as a result of the existing grazing activities are estimated to be negligible and well below the 100 ton per year PM₁₀ significance level in the allotments. Ruminant animals emit methane gas which is a precursor emission for ozone. Ozone precursor emissions are expected to be minimal. No significant offsite impacts are anticipated. None of the allotments are located within a federal nonattainment area, as a result, no conformity analysis or determination is necessary (USEPA 1993). The emissions are expected to occur during the duration of the grazing activities. No long term residual adverse effects on air resources are expected from the Proposed Action.

b. Impacts of the No Action Alternative:

The impacts to air quality from the no action alternative would be similar to the proposed action

c. Impact of the No Grazing Alternative:

No impacts to air would occur as a result of grazing activities.

3. Consultation

None necessary

C. BIOLOGICAL SOIL CRUSTS

1. Affected Environment

The open space between higher plants is not generally bare of all life. Highly specialized organisms make up a surface community consisting of cyanobacteria, green algae, lichens, mosses, microfungi

and other bacteria. Soils with these crusts are often referred to as cryptogamic soils. Soil crusts appear to be wide spread and in good condition in the Deep Springs and South Oasis Allotments. Rangeland health assessments conducted in the South Oasis and Deep Springs Allotments included sampling on the occurrences of biological crusts. Sites in the Eureka Valley allotment were not sampled for biological crusts. The data documents the widespread occurrence of complex soil crust communities consisting of mosses, lichens, green algae and small cyanobacteria. These species are easily damaged by livestock grazing (Belnap and Lange 2003, and USDI BLM 2001b). Many of the biological crust species are not mobile and cannot survive burial. The wide spread occurrence of these sensitive crust species indicates that the sites are in good condition.

2. Environmental Consequences

a. Impacts of the Proposed Action Alternative: The current biological crust community consists of diverse species and is in good condition. These allotments have been grazed for over one hundred years and it is likely that continued grazing at similar levels would not make any appreciable additional changes in the biological crust community.

b. Impacts of the No Action Alternative:

Impacts from the no action alternative would be similar to that of the proposed action.

c. Impacts of No Grazing Alternative:

No impacts to biological crusts would occur from grazing.

3. Consultation

NA

D. CULTURAL RESOURCES

1. Affected Environment

a. Deep Springs Allotment

Over the past 25 years, ten cultural resources surveys encompassing approximately 140 acres have been conducted within the allotment. Most of these studies were completed primarily to support the assessment of range improvements associated with the livestock management activities of Deep Springs College. Thirty cultural properties have been recorded within the allotment boundaries. Most of these properties are archaeological sites associated with prehistoric aboriginal use of the area and were recorded in 1984 as part of a survey carried out by graduate students from the University of California Davis who were completing a research project. A review of the property records completed for that project, including records for five properties that are located on private property owned by the College, indicate that six records note observations about effects to cultural properties that appear to be the result of livestock grazing. The nature and extent of the effects were not described.

The allotment also encompasses the White Mountain Area of Critical Environmental Concern (ACEC). The White Mountain ACEC was established in 1981 and is approximately 700 acres in size. The ACEC contains a concentration of about 20 historic rock foundations, workshops, ore processing areas, and

arrastras associated with 19th century mining activities at White Mountain City. White Mountain City was an active gold placer mining community prior to 1870. The town was substantially abandoned by 1870.

b. Eureka Valley Allotment

This allotment is wedged between the South Oasis allotment to the northwest, and Death Valley National Park to the south, and contains most of the north bajada of Eureka Valley. Part of the allotment also extends into the Piper Mountains Wilderness Area.

No BLM Class III (intensive) cultural property surveys have been conducted within the allotment. Two BLM Class II (reconnaissance) surveys have been completed involving an area of approximately 30 acres. No properties were identified in those surveys. There are no known or recorded cultural properties located within the allotment.

c. South Oasis Allotment

This allotment is generally south of State Highway 168 and includes portions of the southern Fish Lake Valley floor and western foothills. Five cultural property surveys encompassing approximately 65 acres have been conducted to support the assessment of range improvements within the allotment and road restoration projects associated with wilderness management. No cultural properties have been recorded within the boundary of the allotment.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative

Under the proposed action, there would be no change to cultural resources management components of the California Desert Conservation Area Plan as amended. Cattle grazing would continue at current levels pursuant to planning and management prescriptions. Proposed range improvements and changes in approved management plans would be reviewed pursuant to Section 106 of the National Historic Preservation Act as implemented in the *State Protocol Agreement between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer Regarding the Manner in which the Bureau of Land Management will meet Its Responsibilities under the National Historic Preservation Act (2004)* (hereinafter referred to as the *Protocol*) and the Supplemental Procedures for Livestock Grazing Permit/Lease Renewals (2004) (hereinafter referred to as the *Supplement*).

Grazing has occurred in the California Desert since the 19th Century. Our knowledge and understanding about the effects of livestock grazing on cultural properties is limited for the California Desert, but studies of grazing impacts have been reported for other areas in California and the Great Basin region. The primary threats from grazing behavior would be damage to artifacts and site integrity resulting from the breakage, chipping, and displacement of artifacts, which might compromise the context and information potential of a historic property. Grazing threats to cultural properties would be greatest in areas where cattle congregate around springs, watercourses, shade and salt licks.

The proposed alternative would continue livestock grazing in accordance with current management plans. The threats to cultural properties would continue but would not change significantly from current levels. Presently, records for six of the 30 recorded archaeological sites within the allotment boundaries report observations about effects to cultural properties that appear to be the result of livestock grazing. These properties all occur on the upper terraces that surround the Deep Springs Lake depression. Under the proposed action, livestock grazing would be limited in the vicinity of these properties until an assessment of

effects can be completed in accordance with procedures outlined in the *Supplement*. Under the proposed alternative, BLM would continue to implement the procedures outlined in the *Supplement* to identify historic properties that may be affected by livestock grazing. Where conflicts between livestock grazing and significant cultural properties are identified, BLM would implement the appropriate Standard Protective Measures specified in the *Supplement*, or in cases where conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

c. Impacts of the No Action Alternative

The analysis and threats to cultural properties would be the same as the Proposed Action alternative. Under the No Action alternative, there would be no change to cultural resources management components of the California Desert Conservation Area Plan as amended. Cattle grazing would continue at current levels pursuant to planning and management prescriptions. Proposed range improvements and changes in approved management plans would be reviewed pursuant to Section 106 of the National Historic Preservation Act as implemented in the *Protocol* and the *Supplement*. The threats to the 30 cultural properties located within the allotment boundaries would continue but would not change significantly from current levels. As with the Proposed Action Alternative, livestock grazing would be limited in the vicinity of these properties until an assessment of effects can be completed in accordance with procedures outlined in the *Supplement*. Under the proposed alternative, BLM would continue to implement the procedures outlined in the *Supplement* to identify historic properties that may be affected by livestock grazing. Where conflicts between livestock grazing and significant cultural properties are identified, BLM would implement the appropriate Standard Protective Measures specified in the *Supplement*, or in cases where conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

d. Impacts of the No Grazing Alternative

Implementation of this alternative would eliminate the threats from grazing to the 30 known and recorded sites located within the boundaries of the Deep Springs allotment and the historic resources associated with the 19th century mining town of White Mountain City.

3. Consultation

Consultation with the State Historic Preservation Officer regarding the range permit renewal process is accomplished pursuant to the procedures outlined in the *Supplement* to the *Protocol*. Grazing permit renewals have been scheduled for review in accordance with the *Supplement*. BLM Ridgecrest has submitted a schedule for the phased identification and evaluation of historic properties that might be threatened by continued grazing within the allotment. The *Supplement* provides a systematic long term management strategy to accomplish the identification and evaluation of cultural properties, as well as Standard Treatment Measures that may be utilized when BLM determines that significant historic properties would be affected by livestock grazing. In cases where BLM identifies that conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

The *Supplement* applies to the renewal of grazing permit authorizations and existing range improvements. All proposed undertakings for range improvements or changes in management prescription would be reviewed for effects to cultural properties pursuant to procedures set forth in the in the *Protocol* and in accordance with Section 106 of the National Historic Preservation Act (NHPA).

BLM has consulted with five Native American Tribes regarding the proposed action. The Tribes include the Bishop Paiute Tribe, the Big Pine Paiute Tribe, the Fort Independence Paiute Tribe, and the Lone Pine Paiute-Shoshone Tribe and Timbisha Shoshone Tribe. BLM requested comment on the proposed undertaking and in May, 2006, invited the tribes to consult under the *Executive Memorandum of April 29, 1994* (Government-to-Government Consultation) and other applicable laws and regulations in May 2006. No tribes have requested to initiate consultation or have commented on this proposed action.

E. ENVIRONMENTAL JUSTICE

1. Affected Environment

The grazing allotments being analyzed are located in rural Inyo County. The rural areas of this county are typically occupied by moderate to low-income households. The lessees that hold the grazing leases for the allotments being analyzed typically have moderate incomes. Seasonal laborers that may be hired by the lessees generally come from low-income households.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

The implementation of the proposed action would have an affect but not a disproportionate affect on low-income or minority populations living on or near the allotment being analyzed.

The grazing of livestock in rural Inyo County has been a common practice for over 100 years. Typically, ranching has been performed by persons of low to moderate income, and may or may not be considered a minority. There are no Native American communities on or near any of the allotments being analyzed

b. Impacts of No Grazing Alternative

Under the no grazing alternative there would be an affect but not a disproportionate affect with respect to low-income or minority populations. The loss of livestock grazing in rural Inyo county could result in the loss of seasonal employment to a very small component of low-income or minority populations.

3. Consultation

All affected Native American tribes with traditional ties to the lands within the allotments being analyzed would be consulted.

F. FARMLANDS, PRIME OR UNIQUE

1. Affected Environment

The proposed action and the alternatives would have no affect on unique or prime farmlands because there are no lands so designated in the allotment.

G. FLOOD PLAINS

1. Affected Environment

Flood plains are associated with all of the main drainages in the allotment. Alluvial fans occur at the mouth of nearly all drainages. Floods events in recent years closed the Highway through the Deep Springs Valley. Most of the flood events are associated with summer thunderstorm events. These large events tend to be localized events which may drop over 4 inches of rain in a short time. The very large events may have a return interval of 25-50 years. These large events are a result of high intensity storms and are little effected by cultural practices in the watershed.

2. Environmental Consequences

a. Impacts of Proposed Action:

The proposed action could result in some impacts in flood plains. The construction of fences likely would cross flood plains and they would be susceptible to damages from floods, but would not likely to influence future flood events. The loss of existing and future structural range improvements in flood plains would continue at irregular intervals in the future. Such damage would be limited and could be repaired by normal maintenance activities. Flood events where the flows exceed bank full flows and move onto the floodplain generally occur as a result of large summer thunderstorms where the cultural practices such as grazing have little influence on flood size.

b. Impacts of No Action:

Similar to the proposed action.

c. Impacts of No Grazing

Similar to the proposed action.

H. INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

Peter Rowlands et al. (1982) in Brooks (1998) notes that alien species comprise a relatively small portion of the flora in the deserts. They indicate that there approximately 1836 species of vascular plants in the California portion of the Mojave Desert of which 156 (9%) are alien to the region. This compares to the global average of 16% alien plants (Rowlands et al. 1982). Rangeland health evaluations completed in the Deep Springs and South Oasis Allotments identified five species of non-native/invasive species in the area. Species in this group include downy brome(cheat grass) (*Bromus tectorum*), red brome(cheat grass) (*Bromus (rubens) madritensis Ssp. rubens*), Russian thistle (*Salsola tragus*), salt cedar (*Tamarix spp.*) and filaree (*Erodium cicutarium*). The non-native species can be classified into three general groups.

The first group is invasive, non-native plants which are common across the landscape. Species in this group are common across the desert and many are common in surrounding bioregions as well. In these allotments, these species occur in small portions of allotments (3of 8 sites) and combined they generally constitute less than 2 % of the total cover. Species in this group include downy

brome(cheat grass), red brome grass and filaree. None of the species in this group are classified as noxious weeds.

The second group of invasive, non-native species are also common in the desert, but are more restricted in the habitats they occupy. For the most part this group is limited to road sides, some washes and other highly modified sites where there is little competition from other plants and water concentrates to provide late season soil moisture. Adequate soil moisture in the late spring and summer is important for these species. The only representative species in these allotments is Russian thistle which is found along road corridors through and adjacent to the allotments and in the shallow Wyman Creek flood plain south of Deep Springs College. Road maintenance practices and equipment play a strong role in maintaining the site disturbance and in spreading seeds of these type species. There is a future concern for Moroccan mustard (*Brassica tourenfortii*), Mediterranean mustard (*Hirschfeldia incana*) and black mustard (*Brassica nigra*) which are spreading along road corridors in the region. None of these species are listed noxious weeds.

The third group of invasive non-native species are species which occur as a series of specific infestations at specific sites. All of these species are listed noxious weeds and have active control efforts in place. A number of these species occur in the region, but only salt cedar (*Tamarix spp.*) occurs within the grazing areas. The Deep Springs Allotment has five sites identified with populations of salt cedar. The sites range in size from 1 to 2 acres. One site has been controlled. In the South Oasis Allotment, two sites have been identified. Both sites are less than one acre and one has been controlled. There is no potential habitat for salt cedar in the Eureka Valley Allotment and no salt cedar has been found. None of these infestations are the result of or affected by livestock grazing. The Deep Springs College, The U. S. Forest Service and the California Department of Fish And Game have expressed interest in working with BLM to manage noxious weeds in the area. The introduction of invasive, non-native species, especially noxious weeds is very difficult if not impossible to reverse if not detected early. For that reason, the integrated weed management plan includes detection and prevention plans (USDI BLM 2006b).

b. Environmental Consequences

1. Impacts of Proposed Action

Direct and Indirect Impacts:

Livestock grazing have the potential to influence invasive, non-native species several ways. These possible influences could include transporting new species in from other regions, moving seeds from infested sites within the allotment to non infested sites and by modifying sites to be more favorable to invasive, non-native species. The movement and introduction of new species as a result of livestock grazing has a low probability in these allotments. The cattle using the allotment spend their lives on the allotment or adjacent private lands and National Forest lands with no opportunity to move new species into the area. Most existing invasive, non-native species are widespread and have been for a long time. Salt cedar is of limited range, but it is not spread by livestock grazing. Current livestock management is unlikely to cause any additional spread as most of these species occur over most of the region already. Livestock has modify high intensity use sites to provide a more favorable environment for the invasive, non-native species. Observations at watering and corral sites where animals concentrate have noted a dominance of bare ground or the more weedy species from the surrounding area.

2. Impacts of No Action Alternative

Same as Proposed Action

3. Impacts of No Grazing Alternative

There would not be any expected changes in vegetation composition on an overall basis (Sanders (1992) and Johnson and Meyeux (1992)). Some high impact type sites may increase their perennial cover. Standing Biomass levels could increase. Based on current literature and observations of areas which are not grazed, selecting the no grazing alternative would not be expected to result in any appreciable changes in the occurrence of current invasive, non-native species. Grazing would cease to be a factor in non-native, invasive species management, but the non-native, invasive species would continue to be a problem in the area.

3. Consultation

The Integrated Weed Management Plan was developed in coordination with the Deep Springs College, the U. S. Forest Service, the California Department of Fish and Game, the California Native Plant Society and others (BLM 2006b).

I. NATIVE AMERICAN CONCERNS

1. Affected Environment

The majority of the area encompassed by these three allotments was inhabited at historic contact by small family based communities of Paiute-Mono Indians. These people have cultural affinities with both the California and Great Basin cultural regions, and they occupied an area that included the Owens River, Deep Springs, and Fish Lake Valleys. There are four federally recognized tribes, all within the Owens Valley, at Bishop, Big Pine, Fort Independence, and Lone Pine.

The Western Shoshone occupied territory within the northern Mohave Desert, including portions of Eureka Valley. The Timbisha Shoshone Tribe of Death Valley is a federally recognized tribe that represents the interest of these Native peoples.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative

Consultation with Native Americans has been conducted to determine whether or not there may be significant effects and impacts to tribally important locations and resources associated with the Proposed Action. No specific information was offered though by the five Tribes.

b. Impacts of No Action Alternative

Consultation with Native Americans has been conducted to determine whether or not there may be effects and impacts to tribally important locations and resources associated with the No Action Alternative, which represents the current allotment management practices. No specific information was offered though by the five Tribes.

c. Impacts of No Grazing Alternative

Cessation of grazing would indeed result in the cessation of direct effects and impacts that might be occurring to important Tribal locations and resources, This alternative would also eliminate an activity that has been considered a continuation of the historic use of the area.

3. Consultation

Consultation with five Native American Tribes of the region was undertaken in the summer of 2006. These Tribes were: Bishop Paiute, Big Pine Paiute, Ft Independence Paiute, Lone Pine Paiute-Shoshone, all in the Owens Valley, and Timbisha Shoshone of Death Valley. Letters requesting comments were submitted to these Tribes in May 2006 with a requested respond day in mid-June 2006. While no responses were received back, consultation efforts with these Tribes will be continued as part of BLM's government to government responsibilities.

J. RECREATION

1. Affected Environment

The public lands in these allotments provide a wide range of outdoor recreational opportunities and experiences including backpacking/hiking, horseback riding, mountain biking, camping, hunting, photography, nature study, ATV and motorcycle riding, four-wheel driving, rock hounding/ mineral collecting, rock climbing and target shooting. Also on the very western edge of the Deep Springs allotment sits the Poleta Folds an area which is often used by geology classes as a natural science laboratory. Annually a Special Recreation Permit for use within the borders of the Last Chance and Eureka Valley allotments has been issued to a promoter for backcountry camping and vision questing. Additionally portions of the Piper Mountain Wilderness fall within the boundaries of all four of these allotments and within the South Oasis and Last Chance allotments are portions of the Sylvania Mountains Wilderness. Refer to the Wilderness section for details.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

While participating in casual and permitted recreational pursuits participants may encounter such range improvements as fence lines, closed gates, cattleguards, corrals and water developments as well as encountering herds of cattle on the public lands. While range improvements such as closed gates and cattleguards may delay ones recreational pursuits these impediments do not create a significant impact on recreational opportunities. Conversely the sighting of livestock grazing on the open range is often very intriguing and of interest to visitors and enhances ones recreational experience.

b. Impacts of No Grazing

The elimination of grazing would have little effect on recreational opportunities in the region except for eliminating the experience of seeing cattle on the open range of the "Wild West.". Until all range improvements were removed recreational participants may still encounter the remnants of these developments which may delay but not prohibit pursuing one's recreational interest.

K. SOCIAL AND ECONOMIC VALUES

1. Affected Environment

The communities of Bishop, California and the Fishlake Valley area of Nevada are traditionally rural communities where ranching has played a dominant role. Bishop, California is has become more oriented toward tourism as recreationists seek opportunities in the Sierra Nevada, Inyo, and White Mountains. However, ranching is still a substantial though less dominant element in the economy and social values still promote agricultural pursuits to some degree, e.g., the Mule Days Celebration in Bishop.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternatives

Both the proposed action and the no Action alternative would have no affect on social and economic values because ranching practices would continue without substantial change.

b. Impacts of No Grazing Alternative

Locally the economic affect of the no grazing alternative would be negligible because there remains a substantial though dwindling community of ranchers in the area. The nearby Bishop community is increasingly supported by the recreational economy that is based on recreational opportunities in the Sierra Nevada, Inyo, and White mountains. The opportunities for ranching will still be supported by the leases offered by the Department of Water and Power, City of Los Angeles (LADWP). On the other hand the Forest Service is curtailing some of its leases in the mountains. Socially the area would lose a valuable educational community in Deep Springs College that integrates ranching practice with educational curriculum. The loss of grazing privileges to Deep Springs College would be significant in that it has a respected tradition in the local community and contributes to community events. Economically businesses in the Bishop area that make their living servicing agricultural pursuits would lose a valued customer.

Deep Springs has operated a cow-calf operation since the college was founded in 1917. As part of Deep Spring's educational philosophy, ranch labor is essential. The disciplines of range management, water resource distribution, environmental concerns, marketing, and herd improvement are all included in the practical operations of the ranch. The ranch component of the College provides a working laboratory for the students. Through the Deep Springs Resource Management Team, students learn how to relate and cooperate with those agencies that have responsibility for public lands. Simultaneously, students develop very positive relationships with the communities in the adjacent Owens and Fish Lake Valleys.

L. SOILS

1. Affected Environment

There are no soil surveys covering these allotments. Soils in the area are generally poorly developed, well drained and coarse textured. The soil depth ranges from deeper alluvial materials to very shallow or non existent over the rocky substrate. The soils are susceptible to accelerated erosion from wind and water especially when the surface has been disturbed. Much of the soil has been subject to periodic disturbance due to livestock grazing for 140 years. Additional soil

disturbance is occurring as a result of vehicle use on unpaved county roads, farming operations and utility Right-of-way maintenance.

Soil stability was evaluated in the Deep Springs and South Oasis Allotments as part of the Rangeland Health evaluations. All sites evaluated were in the stable range. Soil impacts were noted at sites where cattle were concentrating at management facilities such as water developments.

2. Environmental Consequences

a. Impacts of the Proposed Action Alternative

Direct impacts to soils generally occur through vertical and horizontal displacement and mixing as a result of the grazing activities. Additional direct impacts could include compaction and a reduction in pore space and infiltration rates. Different degrees of impacts would occur to soils from different portions of the grazing operation. Established watering sites and corrals concentrate the cattle into a small area resulting in nearly continuous trampling impacts to those sites. The trampling has resulted in increased compaction in the soil surface, elimination of vegetative cover, and destruction or disruption of biological soil crusts at these sites. Additional new impacts to soils at the established sites are unlikely.

As opposed to the intense use at concentration areas including watering and management facilities, the general grazing use is an extensive use with the animals and their hoof action spread over large areas. This use can be best characterized as a series of small impacted spots (hoof marks) with large areas of interspace. This use would not result in the loss of vegetative cover or increased compaction or reduced infiltration rates. It would result in a small increase in wind and /or water erosion potential over the background levels. Wind and water erosion rates are not expected to increase above current levels as a result of the Proposed Action.

Indirect impacts would occur as increase soil erosion from water and wind. The movement of soils by water during high flow events would occur both on the intense use areas and down associated drainages. The movement would involve both removal and deposition. The deposition could occur on the sites, adjacent to the site, along or in roads and through out the drainage. As most of the intense use sites are on shallow slopes, the increased water erosion is expected to be negligible and very localized. Wind erosion could occur on disturbed sites during the common high wind events in the spring. Wind erosion would result in losses of small particles from the surface and increased particulate emissions. The wind erosion losses diminish quickly over time as the small particles are lost from the surface. Erosion rates would only slightly exceed natural rates. The current SSF ratings for the allotment would not be expected to change significantly as a result of the Proposed Action.

a. Impacts of the No Action Alternative

The impacts of the no action alternative would be similar to those in the proposed action alternative.

c. Impacts of No Grazing Alternative

Elimination of grazing would eliminate any additional impacts to soils as a result of cattle grazing. Soils at concentration areas would slowly return to a more natural compaction rate, infiltration rate and stability.

3. Consultation

Natural Resources Conservation Service visited the allotment with BLM on numerous occasions and assisted with monitoring and evaluation efforts.

M. SPECIAL STATUS PLANTS:

1. Affected Environment

One Special Status Plant has been identified from the allotments. The California Natural Diversity Data Base (CNDDDB) lists one location for Geyer's milkvetch (*Astragalus geyeri* var *geyeri*) in the Deep Springs Allotment. The CNDDDB lists an additional location north east of these allotments near Oasis. Geyer's milkvetch is on the California BLM special Status Plant List and is classified as a List 2 species by the California Native Plant Society (CNPS). According to the CNPS, List 2 species are rare, threatened or endangered in California, but more common elsewhere. In addition to these two locations it occurs in the Owens Valley and near Susanville in California and in Nevada, Oregon, Washington and Wyoming. There is very little literature on the ecology of this species. It is unknown how it responds to livestock grazing, although, most members of this genus are unpalatable and/or poisonous to livestock.

2. Environmental Consequences

a. Impacts of the Proposed Action Alternative

Geyer's milkvetch is located away from any concentration areas for cattle, is likely to be unpalatable and/or poisonous to livestock and has coexisted with grazing for nearly 100 years. Impacts to the species are likely to consist of random trampling of individual plants. The proposed action is unlikely to increase impacts to the local population or jeopardize the continued existence of the species in Deep Springs Valley. As part of the normal BLM practices, future work will include additional surveys for the species in the area and monitoring known populations, evaluating potential grazing impacts and application of protective mitigation if necessary.

b. Impacts of No Action Alternative:

The impact of the no action alternative would be the same as the proposed action for Special Status Plants.

c. Impacts of No Grazing Alternative:

No special status plants will be impacted by this alternative.

N. WASTE, HAZARDOUS OR SOLID

1. Affected Environment

Detailed surveys of hazardous or solid wastes have not been undertaken on this allotment. BLM maintains no records of reportable spills in the allotment. Although use of motorized vehicles and equipment by the livestock operator may have resulted in periodic and scattered spills or releases of fuel and petroleum products in the allotment, none are documented. For this reason we believe that the proposed action and the alternatives would have no effect on hazardous or solid waste.

O. WATER QUALITY, SURFACE AND GROUND WATER

1. Affected Environment

These Allotments are located on the eastern base of the White Mountains and the western edge of the Great Basin. The climate and annual precipitation is typical for the desert environment. Mean annual perception is estimated to be around 6 inches. Large variations in yearly perception volumes are common. Most of the perception comes in the form of rain at the lower elevation and many times snow at the highest elevations. Most of the perception falls between November and mid March. A portion of the rainfall can be a result of summer events. Large summer rain events are not common, but can be quite large causing considerable watershed damage when they do occur. A number of canyons drain through the allotments from the White Mountains and Sylvania Mountains. Storm water flows drain to the northeast into the Fish Lake Valley or south into Eureka or Deep Springs Valleys. Riparian areas are found in several of the canyons and a permanent flowing streams exist in Wyman Canyon in Deep Springs Valley. Most of the stream flow in the canyon is diverted to Deep Springs College while the remainder disappears at the mouth of the canyon into deep alluvium. A number of seeps and springs occur in the allotments. Only a few of them are on BLM lands. Antelope Spring is located on private land in the Deep Springs Allotment, but the overflow extends down onto BLM. Antelope Spring provides water for the Payson Pipeline and several troughs. Two Tub Spring in the South Oasis Allotment is also developed for stock water.

The U.S. Geological Survey identified portions of Two large watersheds in the allotments. These are the Deep Springs Valley-Eureka Valley basin and the Fish Lake Valley basin. Storm water flows from the Deep Springs Allotment, South Oasis, and Eureka Valley Allotments end up in one of three closed sub-basins. These are Deep Springs Valley, Fish Lake Valley and Eureka Valley. The Final Unified Watershed Assessment (1998) classified the Deep Springs Valley-Eureka Valley basin as a category 1 (impaired) low priority watershed and the Fish Lake Valley basin as a category III watershed. The category I low priority classification indicated that that watershed was impaired but of a lower priority to receive Clean Water Action Plan grants from the federal Nonpoint Source Program and was the result of the classification of Deep Springs Lake as a 303 impaired water body due to salinity (the impaired classification for Deep Springs Lake has been removed recently). The category III classification indicates pristine type conditions.

The Lahontan Basin Plan identifies beneficial uses (chapter 2) and water quality objectives (chapter 3) for the surface waters in the allotments. The basin plan lists specific beneficial uses as standards to maintain or meet. For many of the sources, the plan states that beneficial uses includes municipal, agricultural, ground water recharge, recreation 1 & 2, warm water fisheries, cold water fisheries and wildlife. The minor wetlands category has an additional beneficial use of freshwater recharge.

The Clean Water Act and the USEPA classify water pollution from rangelands as nonpoint source pollution (NSP). Management of NSP is through a series of management practices called best management practices (BPS). According to the USEPA, "The restoration or protection of designated water uses is the goal of BMP systems designed to minimize the water quality impact of grazing and browsing activities on pasture and range lands." Management practices can minimize the delivery and transport of pollutants to surface and ground waters. According to the USEPA, management practices control the delivery of NPS to receiving water resources by:

- minimizing pollutants available;

- retarding the transport and/or delivery of pollutants; and/or,
- remediating or intercepting the pollutant before or after it is delivered to the water resource.

The USEPA (2004a and 2004b) has produced guidance titled *National Management Measures to Control Nonpoint Pollution from Agriculture*. In that document section 4E addresses grazing management. The following grazing management measure is taken from that document:

“Manage Rangeland, pasture and other grazing lands to protect water quality and aquatic and riparian habitat by:

1. improving or maintaining the health and vigor of selected plant(s) and maintaining a stable and desired plant community while, at the same time, maintaining or improving water quality and quantity, reducing accelerated soil erosion, and maintaining or improving soil conditions for sustainability of the resources. These objectives should be met through the use of one or more of the following practices:
 - a. maintain enough vegetative cover to prevent accelerated soil erosion due to wind and water;
 - b. manipulate the intensity, frequency, duration and season of grazing in such a manner that the impacts to vegetation and water quality will be positive;
 - c. ensure optimum water infiltration by managing to minimize soil compaction or other detrimental effects;
 - d. maintain or improve riparian and upland vegetation;
 - e. protect streambanks from erosion;
 - f. manage for deposition of fecal material away from water bodies and to enhance nutrient cycling by better manure distribution and increased rate of decomposition; and,
 - g. promote ecological and stable plant communities on both upland and bottom lands sites.
2. excluding livestock, where appropriate, and /or controlling livestock access to and use of sensitive areas, such as streambanks, wetlands, estuaries, ponds, lake shores, soils prone to erosion, and riparian zones through the use of one or more of the following practices:
 - a. use of improved grazing management systems (e.g. herding) to reduce physical disturbance of soil and vegetation and minimize direct loading of animal waste and sediment to sensitive areas;
 - b. installation of alternative drinking water sources;
 - c. installation of hardened access points for drinking water sources;
 - d. placement of salt and additional shade, including artificial shelters, at locations and distances adequate to protect sensitive areas;

- e. provide stream crossings, where necessary, in areas selected to minimize the impacts of the crossings on water quality and habitat; and,
 - f. use of exclusionary practices, such as fencing (conventional and electric), hedgerows, moats and other practices as appropriate
- and
3. achieving either of the following on all rangelands, pastures and other grazing lands not addressed above:
- a. apply the planning approach of the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) to implement the grazing land components in accordance with one or more of the following from NRCS: a Grazing Land Resource Management System (RMS); National Range and Pasture Handbook (USDA-NRCS, 1997b); and NRCS Field Office Technical Guide, including NRCS prescribed Grazing 528A;
 - b. maintain or improve grazing lands in accordance with activity plans or grazing permit requirements established by the Bureau of Land Management, the National Park Service, or the Bureau of Indian Affairs of the U.S. Department of Interior, or the USDA Forest Service; or other federal land manager.”

The text in number 3 above is included in the state of California guidance called *California Nonpoint Source Encyclopedia* (SWRCB 2004) updated July 2004. Also, the BLM is currently meeting with the +

Lahontan Regional Water Board to develop a Management Agency Agreement for non-point sources on public lands to address water quality issues. Upon agreement by both agencies, relevant portions of the Management Agency Agreement would be incorporated into the grazing authorizations to address any remaining water quality issues or conflicts. A draft of this agreement is anticipated this year.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative:

For the most part cattle do not have access to surface water. Weyman Creek only flows a short distance from the Inyo National Forest onto BLM lands. Most of that stretch physically excludes livestock use. Cattle currently have access to the overflow from Antelope Spring, but the proposed action proposes fencing (a BMP) which would remove that potential pollution source. Two Tub Spring is fenced to exclude livestock. The Proposed Action does not represent point source impacts to water quality and no 401 permit is necessary. Impacts from the Proposed Action represent non-point-source impacts which are controlled by the implementation of Best Management Practices (BMP). The proposed action complies with the USEPA guidance which says to use one or more of the recommended practices. It also follows both state and USEPA guidance to follow BLM land use plan guidance (standards and guidelines).

b. Impact of No Action Alternative

Impacts of the no action alternative would be similar to the proposed action alternative.

c. Impacts of No Grazing Alternative

No impacts to water resources would occur due to cattle grazing since cattle grazing would cease to occur.

P. WETLANDS/RIPARIAN ZONES

1. Affected Environment

In the Deep Springs Allotment, many of the springs are on private land. The riparian that is present on the BLM lands consists of about a mile of riparian on Wyman Creek, an unnamed spring in Wyman Canyon, Buckhorn Spring, Cuna Spring, North Bog Mound Spring, riparian below Antelope Spring, and a spring area near Birch Canyon. Other than Antelope Spring, riparian areas are in good condition and exhibit no adverse impacts from cattle use. Antelope Spring drainage has been impacted by cattle and the habitat supporting the Black Toad has been degraded.

In the South Oasis Allotment, North Piper Mountain Spring (One Tubb), Two Tubb, and Piper Spring occur in the west mountainous portion of the allotment. In the past, North Piper Mountain Spring was not developed for cattle use. It was left in its natural state to be used for wildlife. Cattle access water at a water haul site to the east.

Eureka Valley Allotment has no water sources.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

In the Deep Springs Allotment, riparian areas are in good condition and exhibit no adverse impacts from cattle use.

In the South Oasis Allotment, cattle receive water from wells rather than springs or riparian areas, avoiding degradation of riparian habitat. In some years, One Tubb Spring has received light use by cattle. This spring is important to wildlife and should be monitored periodically to insure maintenance of healthy riparian vegetation. Currently, One Tubb Spring is not used since water is hauled in to the cattle instead. Cattle do not use Two Tubb Spring because it is in rugged, inaccessible country. Two Tubb Spring was once developed by the CA Dept. of Fish and Game as a wildlife watering site, but was not maintained. Other small springs are located in rugged country and are not easily accessed by cattle.

Eureka Valley has no water sources to attract cattle. Cattle only use this allotment when lush spring annual forage is present. The allotment has been grazed only twice in the last 13 years.

b. Impacts of No Grazing Alternative

Elimination of grazing would not have an impact on the riparian areas.

Q. WILD AND SCENIC RIVERS

1. Affected Environment

The proposed action and alternatives would have no affect on wild and scenic rivers because there are no rivers so designated in the allotment.

R. WILDERNESS

1. Affected Environment

There are portions of two wilderness areas located within parts of the Deep Springs, South Oasis, and Eureka Valley allotments. Piper Mountain Wilderness Area encompasses 36,840 acres. Of these, 7,707 acres occur within the Deep Springs allotment (approximately 19 percent of the allotment); 7,370 acres within the South Oasis allotment (approximately 50 percent of the allotment) and; 16,085 occur within the Eureka Valley allotment (nearly 100 percent of the allotment). Sylvania Mountains Wilderness Area encompasses 17,820 acres. Approximately 2,456 acres or 17% of the South Oasis Allotment lies within this wilderness area.

The Piper Mountain Wilderness is located in the transitional mountainous region between the White and Inyo Mountains and in Deep Springs, Fish Lake, and Eureka valleys. It shares much of its southern boundary with Death Valley National Park and its eastern boundary with the Sylvania Mountains Wilderness. The varied habitats of the Great Basin grade into those of northern Mojave Desert in Eureka Valley. Saltbush-scrub is common at western lower elevations. Joshua tree woodland, sagebrush, and pinyon-juniper woodland appear at higher elevations. Greasewood-scrub and creosote-scrub are found at eastern lower elevations. The rare fishhook cactus, *Sclerocactus polyancistrus*, can be found throughout the mountainous regions, particularly in Joshua Flats. Cryptobiotic soil can be found in Joshua Tree woodland communities in the intermountain region and on the floor of northern Eureka Valley. There are isolated seeps and springs in the area supporting small riparian communities of special interest. Most occur on the wilderness boundary at the eastern edge of the lake in Deep Springs Valley. Other isolated springs (One-Tub, Two-Tub (Tule), and Wheelbarrow (Wyler)) are found in the Piper (Chocolate) Mountains between Deep Springs and Eureka valleys.

The Piper Mountain Wilderness is a popular camping and hiking area. The area is among the most accessible and the most remote, natural and pristine of all of the Ridgecrest Field Office's wilderness areas. Deer hunters use mountainous regions. Backpackers also use the area, although less frequently, because of the scarcity of water. The wilderness is largely defined by perimeter roads. Two vehicle corridors (Piper/Chocolate Mountain and Horse Thief Canyon) bisect the area through Eureka Valley: This provides for several good camping and staging areas for wilderness activities throughout the valley and surrounding ranges. This area is extremely popular among vision quest groups. The School of Lost Borders has obtained commercial permits for conducting two vision quests here per year over the past 10 years. There are no developed trails. Piper Mountain and Mt. Nunn are both on the Sierra Club's Desert Peaks list. There is one abandoned mine site that still needs to be closed and rehabbed. Most of the other old routes leading to historic gold mining sites were reclaimed long ago. Recent route reclamation efforts have been largely successful in closing all of the estimated 31 miles of jeep trails that formerly existed in the area.

Currently, there are a total of 17 identified range developments in the Piper Mountain Wilderness for all three allotments. All of these developments pre-existed wilderness designation in 1994. These improvements are maintained in a variety of ways, none of which require motorized access, the use of motorized or mechanized equipment, or any other action normally prohibited under the Wilderness Act.

The Sylvania Mountains Wilderness abuts the Piper Mountain Wilderness and the California-Nevada border. Death Valley National Park borders this wilderness on its west and south ends. The wilderness starts in Eureka and Fish Lake valleys and rises through a series of rolling hills to a core of rough, deeply bisected mountains approaching 8000 feet at the California/Nevada border. The varied habitats of the Northern Mojave Desert join mountainous cooler (Great Basin) region plants and animals. One can find cholla, beavertail, and Joshua trees, interspersed with buckwheat, big sage, bitterbrush, and pinyon-juniper woodland in protected inner basins.

There is one intact cabin structure along the wilderness boundary at Willow Springs. A few other old routes reclaimed long ago, bulldozed areas, old camps, and collapsing structures associated with historic gold mining sites, exist. Recent route restoration efforts have been mostly successful in closing the estimated 16 miles of old jeep trails/vehicle ways inside of wilderness.

Currently there are a total of 16 range developments inside of the Sylvania Mountains Wilderness. All of these developments pre-existed wilderness designation in 1994. These are maintained in a variety of ways, none of which requires motorized access, the use of motorized or mechanized equipment, or any other action normally prohibited under the Wilderness Act.

There are no wilderness management plans for any of these areas.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

Cattle-grazing is an authorized use in wilderness. The proposed action is continue cattle grazing in wilderness on these three allotments at the same levels as that permitted in 1994 when these areas became wilderness. Under these two alternatives, Cattle grazing occurs in a deferred rotation strategy, moving the cattle from pasture to pasture. This method reduces the amount of time the cattle spend in any one pasture while increasing the grazing distribution within that same pasture. There are no new proposed improvements proposed under these alternatives. Under this alternative, adverse impacts to wilderness are not expected to occur. The expected impacts to physical and biological resources are determined to be less than before the area was designated as wilderness.

All proposed actions in wilderness involving the use of motorized vehicles, or motorized and mechanized equipment, structures, installations, or any other action normally prohibited under the Wilderness Act will require a separate, project-specific Environmental Assessment with a Minimum Action/Minimum Tool Analysis.

b. Impacts of No Grazing Alternative

There are expected to be no impacts to wilderness under this alternative.

S. WILD HORSES AND BURROS

1. Affected Environment

Wild Horse and Burro:

The Piper Mountain Herd Management Area (HMA) is addressed in the CDCA Plan. This HMA consists of approximately 69,000 acres of public land. The present AML was established in the CDCA plan at 17 horses (201 AUMs) and 82 burros (686 AUMs). This HMA occurs on the Nevada State boundary where seasonal movements and mixing of these animals occur with adjacent HMAs located in Nevada. There has been a shift in the number and location of wild horses and burros throughout the area. The burro population has dropped from an estimated 150 in 1980 down to the present estimate of 0 burros. It is speculated the removals conducted by Nevada and seasonal movements to Sand Spring where total removals have been conducted, has reduced the burro populations. The wild horse population at Piper Mountain has also dropped from an estimated 40 horses in 1980 to 0. Sometime in the mid 1980's, there was a shift in the wild horse population. A group of 30 or more horses were seen in Deep Springs Valley foraging in the alfalfa fields during the summer. The herd apparently dispersed further north into the Furnace Creek area and Fish Lake Valley up to Wild Horse Canyon. Information from the Tonopah Wild Horse and Burro Specialist, indicates there is some seasonal movements of wild horses between this herd and the Fish Lake Valley and Silver Peaks HMA in Nevada. Due to the fencing of private land for alfalfa and other irrigated crops, it would be very unlikely to see horses drifting back to Piper Mountain.

It is anticipated that the long term management for wild horses and burros for this area will be re-evaluated sometime in the future, especially in relation to the number and location of the animals and their free-roaming nature which may have been affected by the variety of fences that have been developed over the years to protect agricultural crops and the development of grazing pastures. An evaluation to the wild horse and burro element is necessary to determine if fences may have impacted the distribution of wild horses and burros through out the HMA.

The Piper Mountain HMA include areas common to livestock grazing. The following table reflects the livestock grazing Allotments within the Piper Mountain HMA and allocated AUMs for wild horses and burros within them.

| Allotment | Allocated Wild Burros AUMS | Allocated Wild Horse AUMs |
|---------------|----------------------------|---------------------------|
| White wolf | 27 | 0 |
| Oasis Ranch | 39 | 14 |
| South Oasis | 223 | 65 |
| Last Chance | 164 | 16 |
| Deep Springs | 0 | 26 |
| Eureka Valley | Not Assessed | Not Assessed |

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

There would be no impacts to wild horses or burros. Currently, there are no wild horses and burros within the allotments that are being renewed. The rangeland health assessments for the South Oasis Ranch Allotment did not indicate impacts from wild horse and burro use.

The forage allocations from the CDCA Plan allows for the opportunity to re-evaluate if the Piper Mountain HMA is suitable for re-introduction of wild horses and burros. It is anticipated that the long term management for wild horses and burros for this area will be re-evaluated in relation to the number and location of the animals and their free-roaming nature which may be affected by the

variety of fences that have been developed over the years to protect agricultural crops and the development of grazing pastures.

There is no anticipated conflict. However, an analysis of the Piper Mountain HMA for the future management of wild horses and burros need to be assessed before a determination can be made. The biggest concern would be to the free-roaming nature of wild horses and burros through the allotment that might be affected from pasture or drift fencing. An evaluation to the wild horse and burro element is necessary to determine if fences may have impacted the distribution of wild horses and burros throughout the HMA and if it is feasible to try and manage either wild horses and/or burros. If it is determined this may be the case, some mitigation measures would be evaluated in the analysis for the management of wild horses and/or burros, such as removing fence structures and allowing access to natural waters

2. Impacts of No Grazing Alternative

There would be no impact to wild horses and burros under this alternative.

T. WILDLIFE (T&E)

1. Affected Environment

Mule Deer (*Odocoileus hemionus*): A small number of mule deer from the White Mountains winter in the Piper and Sylvania Mountains and migrate back to the White Mountains in spring. Deer use the springs for water sources. Deer are known to water regularly at North Piper Spring (also known as One Tub) and Two Tub Springs on the South Oasis Allotment. Bitterbrush and other shrubs are important food plants, especially in the fall when the nutritional value of other plants drops. In the South Oasis Allotment, mule deer habitat is in the western part in the more rugged area of the Piper Mountains. This area receives only slight or no use by cattle. The area northeast of Eureka Valley Road is on the flats and receives little use by deer. In the South Oasis Allotment, forage plants used by both cattle and wildlife consist of *Atriplex canescens* (Fourwing), *Graya spinosa* (Hopsage), *Acamptopappus sphaerocephalus* (Goldenhead), *Krascheninnikovia lanata* (Winterfat), *Mendora spinescens*, *Ephedra nevadensis* (Mormon Tea), *Achnatherum speciosa* (California Needlegrass), *Hilaria* sp., *Sitanion hystrix* (Bottlebrush or Squirreltail), and *Achnatherum hymenoides* (Indian Rice grass). In the Deep Springs Allotment, forage plants consist of *Krascheninnikovia lanata* (Winterfat), *Eriogonum* sp. (Buckwheat), *Atriplex confertifolia* (Shadscale), *Atriplex canescens* (Fourwing), *Achnatherum hymenoides* (Indian Rice Grass), and *Achnatherum speciosa* (California Needlegrass). Cattle receive water from both springs and wells on the Deep Springs allotment. Wildlife also depend on these springs.

Desert Bighorn Sheep (*Ovis canadensis nelsoni*): The North Mojave metapopulation of desert bighorn sheep move into the valley to drink at the springs and riparian areas. Bighorn sheep are recolonizing the Deep Springs area. In 1995, the population was estimated to be less than 25 animals. However, the population has been growing during the past 9 years. Bighorn sheep have been seen on the Deep Springs Allotment east of Deep Springs Lake in the Piper Mountains.

Large Mammals and Game Birds: Mountain lions, bobcats, and coyotes occur throughout the allotment. They depend on healthy vegetation that is essential for their prey base as forage and habitat. The main species of upland game birds are chuckar and mourning dove which are ground nesting birds. California quail could occur along Wyman Creek. Populations of upland bird species fluctuate with the weather. Therefore, relating populations to management is difficult.

Bat species: The following bat species have been documented near Deep Springs College in the vicinity of the allotment: Townsend's big-eared bat, pallid bat, silver-haired bat, spotted bat, and long-eared myotis. These bat populations depend on a diversity of insect and invertebrate prey. Vegetation needs to be sufficient to provide the diversity of insects, spiders, and other invertebrates that comprise the bats' diets.

Migratory and breeding birds: All native bird species on the allotments are protected under the Migratory Bird Treaty Act, but some have additional status. Raptors, as a group use the upland primarily for hunting prey. Thus, they require a healthy vegetative community that produces an abundance of rodents, rabbits, and other prey species. The prairie falcon, a BLM sensitive species, nests at sites with steep cliff faces and forages over a wide area. In addition to resident bird species, an abundance of migratory bird species use the springs and water sources as they pass through the area in spring and fall.

Burrowing Owl (*Athene cunicularia*): The burrowing owl is a California Species of Special Concern that is a year-around resident within these allotments. Burrowing owls require a productive vegetative community around their nest because they do not forage great distances. They do, however, prefer shorter vegetation around their nest sites so they can easily see their prey.

Dune-obligate Insect Species (*Cardiophorus* sp.) : There is a small sand dune located at approximately at R36E, T7S, NW1/4 Sec.32, about 1 mile N of Deep Springs Lake. Several dune-obligate insect species occur on the dune. Species in the genus *Cardiophorus* are known from here. Deep Springs is unique in having 2 species living together. One species is fully winged; the other is flightless, has half-length vestigial wings, and occurs only on the best-quality sand within a small area. There are no intermediate forms. They are active for only a short time in winter (mid-February is the best time to find them), often at below-freezing temperatures. Along with depth of sand, particle size is a major factor for species that are specialized to live only on dunes. When silt becomes infused into the sand, both the dune flora and fauna disappear, replaced by off-dune species.

Springsnails and other Aquatic Invertebrates: These species require good water quality with a substrate that allows feeding, reproduction, and other essential processes. Wong's springsnail (*Pyrgulopsis wongi*) has been documented in springs near Deep Springs Lake and could occur in other areas of flowing water on the allotment. Where livestock trample in the creek, the stream bed develops shallow, muddy areas with poor water quality. These areas are unsuitable for springsnails. Bats, birds, and other wildlife that depend on insects for food depend on healthy aquatic ecosystems with a diversity of aquatic invertebrate species.

Threatened or Endangered Species: The **Black Toad**, *Bufo exsul*, is listed as threatened by the California Department of Fish and Game (CDFG) and is a "fully protected" species. It is found in the wild only in Deep Springs Valley in California, and is found in close proximity to water along water courses associated with wet meadow habitat. The black toad can also be found on dry sandy soil around the springs. According to the CA Dept of Fish and Game, the black toad occurs at Corral Springs, Bog Mound Springs, Buckhorn Springs, Deep Springs Lake, Antelope Springs, and was recently sited at Birch Creek. On BLM lands, the toad is present at Buckhorn Spring, potentially North Bog Mound spring and at the Antelope Spring Road crossing. All other black toad habitat is on private land or on National Forest. Population size at Corral Springs was estimated to be 8,000 toads in 2003 (Murphy et al 2003). Population sizes at other springs are unknown. The black toad is active diurnally from March through November, with crepuscular and nocturnal activity during the

warmest periods (CA DFG website). During cooler periods (late fall to early spring), it hibernates in rodent burrows and in depressions under debris. During the active season, adults seek cover under and between clumps of vegetation and under objects near water. Individuals escape capture by hopping into the water and seeking shelter under overhanging banks. The black toad forages among grassy tussocks surrounding the springs. Its diet consists of a variety of arthropods, annelids, and mollusks, with a preference for beetles, fly larvae, lepidopterous larvae, and ants (Busack and Bury 1975). The aquatic larvae feed primarily on algae and plant material. This toad breeds in shallow water with vegetation that protects eggs and tadpoles. Clutches of 120 to 150 eggs are common. Eggs hatch in 5 days and tadpoles transform in 3 to 5 weeks. Sexual maturity is reached by the end of the second year. The black toad initiates breeding in mid- March, and will often double clutch, resulting in tadpole presence through July. The most sensitive time is in the spring when the eggs are present.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

Mule deer (*Odocoileus hemionus*): Since deer use this area primarily in the winter, the presence of sufficient winter forage is of great importance. Utilization studies and rangeland health assessments have shown forage to be adequate to support the small number of deer that use the area and the cattle.

Water sources are also extremely important to deer. In the Deep Springs Allotment, many of the springs are on private land. The riparian that is present on the BLM lands consists of about a mile of riparian on Wyman Creek, an unnamed spring in Wyman Canyon, Buckhorn Spring, Cuna Spring, North Bog Mound Spring, riparian below Antelope Spring, and a spring area near Birch Canyon. All of these riparian areas are in good condition except for Antelope Spring which will be fenced. Cattle grazing is not significantly impacting the deer population. In addition, the Deep Springs Allotment is divided into 5 pastures, and the rancher rotates his cattle through the pastures, allowing about 9 months of rest between uses. This management has prevented over-grazing within the Deep Springs Allotment, maintaining healthy habitat for wildlife.

In the South Oasis Allotment, mule deer habitat is in the western half of the allotment in the more rugged area west of Eureka Valley Rd. This area receives only slight or no use by cattle (SW of Eureka Valley Road). The area that receives the most cattle use is northeast of Eureka Valley Road, on the flats and is not suitable deer habitat. Cattle receive water from wells rather than springs or riparian areas, avoiding degradation of riparian affecting wildlife. Wildlife use other small springs in the Piper Mountains. These springs are located in rugged country and are not easily accessed by cattle.

Eureka Valley has no water sources to attract cattle. Cattle only use this allotment when lush spring ephemeral forage is present. Since the allotment has been grazed only twice in the last 13 years, the impact to wildlife is not significant.

Desert Bighorn Sheep (*Ovis canadensis nelsoni*): In the Deep Springs Allotment: The bighorn sheep population does not appear to be adversely affected by cattle grazing. The bighorn sheep use the rugged mountains and cliffs, while the cattle use the lower flatter areas. As long as water sources are not degraded, cattle grazing in these allotments is compatible with the recovery of desert bighorn sheep in the area.

Bat species: In general, if the upland plant community is meeting the rangeland health standards, it will provide sufficient foraging habitat for bats. BLM will conduct Rangeland Health Assessments and also assess the condition of riparian and aquatic habitats. If necessary, protective measures will be implemented to prevent or to recover degraded habitats.

Migratory and breeding birds: The proposed action is not expected to adversely affect bird populations. After the riparian below Antelope Spring is fenced, all riparian areas will be in good condition. Both the Least Bell's vireo and the Southwestern willow flycatcher, which are both federally endangered species, are highly unlikely to nest in any of the riparian areas in these 3 allotments. These riparian areas are not extensive enough to be suitable nesting habitat for these subspecies of Bell's vireo and Willow Flycatcher. It is possible that they use the areas during migration, but it is almost impossible to determine if they do since vocalization distinguishes which subspecies they are.

Burrowing Owl (*Athene cunicularia*) : Cattle and burrowing owls seem to coexist without much adverse impact. Cattle maintain shorter vegetation around their nest site which is beneficial to the owl.

Dune-obligate insect (*Cardiophorus*): As previously stated, particle size is a major factor for species that are specialized to live only on dunes. When silt becomes infused into the sand, the dune flora disappear, replaced by off-dune species. At undisturbed high quality dune habitat, silt was wind-deposited into hard-packed hummocks held in place by shrubs, with almost pure sand occurring in flat areas between the hummocks. If cattle trample the dune, they destroy the dune's stability, and they mix silt in with the coarser sand particles. In 2001, it was reported that the hummocks were being broken up by trampling from cattle faster than the dunes could be renewed by wind-blown sand (Giuliani 2002). Due to this trampling, the silt to sand ratio in the middle of a sand flat was almost as high as the same ratio taken from a dirt hummock. In 2001, *Cardiophorus* at this dune were very few in number (normally they can be as thick as ants). There was concern because the most common dune beetle of all (*Eusattus muricatus*), found easily during collections for DNA analysis at all other Great Basin dunes last year (except for a few destroyed by dune buggies), could not be found anywhere at Deep Springs despite repeated attempts. BLM will monitor the dune area for the impacts of cattle, and if necessary, cattle will be excluded from the dune to prevent trampling and degradation of dune habitat.

Wong's Springsnail and other Aquatic Invertebrates – To prevent adverse impact of grazing on these species, BLM will assess riparian and aquatic habitats annually. Appropriate protective measures will be taken when necessary. BLM plans to fence the stream below Antelope Spring to promote recovery of the aquatic habitats that could become suitable for a diversity of aquatic invertebrates.

Black toad (*Bufo exsul*) (Deep Springs Allotment): The proposed action would not significantly impact the black toad. The black toad population is most dense near Deep Springs Lake which is grazed by cattle. The Black toad has survived in this area in conjunction with cattle grazing for over 100 years. Historically, pronghorn antelope and desert bighorn sheep grazed in the area. Healthy black toad populations appear to be compatible with grazing. On BLM lands, the toad is present at Buckhorn Spring, potentially at North Bog Mound Spring, and at the Antelope Spring Road crossing. All other black toad habitat is on private land or National forest. In 1980, researchers noted black toad tadpole mortality associated with water diversions and also noted some adult mortality presumably caused by cattle trampling. Cattle exclosures have been built around some of the spring sources to protect toad habitat. Cattle grazing in winter when toads are hibernating could

crush the burrows in which they are hibernating. On the other hand, grazers such as bighorn sheep and pronghorn antelope were historically in the area. It is unknown how the thickly vegetated areas within exclosures affect the toad since they prefer habitats with short plant cover and unobstructed access to still or slow flowing water. To protect toad habitat, it is important to retain flow at the spring and to allow standing water to remain at the site. Deep Springs College has abandoned maintenance of irrigation ditches. To protect eggs and tadpoles, as well as active adults, cattle should be excluded from springs and areas that the black toad uses from mid-March through September. BLM plans to fence Antelope Spring to prevent degradation of riparian and aquatic habitat that the black toad is using.

BLM will monitor livestock use in both riparian areas and upland areas, and will identify any over-grazing or deterioration of habitat. Appropriate protective measures will be taken. BLM will conduct annual utilization studies to assure that adequate forage exists for wildlife species. In addition, BLM will conduct Rangeland Health Assessments. Therefore, the proposed action will not have a significant impact on wildlife populations.

b. Impacts of No Grazing

There would be no adverse impacts if grazing were eliminated.

3. Consultation

California Department of Fish and Game (Dawne Becker and Alisa Ellsworth in Bishop, CA) were consulted concerning the black toad, mule deer, and bighorn sheep. Their comments are incorporated into this document.

U. VEGETATION

1. Affected Environment

General:

The Deep Springs, South Oasis, and Eureka Valley Allotments are located in the Great Basin Floristic Province as described in the *Jepson Manual, Higher Plants of California*. Most of the allotment supports what Sawyer and Keeler-Wolf (1995) in *A Manual of California Vegetation* describe as vegetation series (now called alliances) dominated by shrubs. These shrub series typically support an herbaceous layer that may include less than a dozen species of perennial grasses and forbs. In addition the herbaceous layer usually includes a diverse number of annual forbs and three species of annual grasses. The riparian vegetation series are the most complex in that they can have multiple tree layers in addition to the shrub layer and the herbaceous layer. In addition the riparian zones with free water have an additional layer below the water surface

The Deep Springs, South Oasis, and Eureka Valley Allotments consist of a mixture of valley bottoms separated by mountain ridges. Many of the valley bottoms are over 4,000 feet elevation. Seven health assessments have been conducted on upland sites where vegetation attributes were sampled in the Deep Springs and South Oasis allotments. Thirty-one species of perennial plants were encountered at the upland transect sites. Several of the vegetation series identified in the allotment are considered transitional. These series include or are dominated by short lived species. According to Sawyer and Keeler-Wolf (1995), these series can be an indicator of past and/or current disturbances. The disturbances can be either man caused (like grazing, or maintenance on rights-of-

ways and roads) or natural (like fire or flood events). Examples of all of these disturbances were observed in the Deep Springs, South Oasis, or Eureka Valley Allotments. An example of the short lived species characteristic of these series is a site in Deep Springs Valley where periodic flooding and standing water result in periodic stands of Russian thistle. The creosote bush (*Larrea tridentata*) and Joshua trees (*Yucca brevifolia*) are among the long lived species occurring in the area.

The creosote bush is close to the northern extent of its range in these allotments. The creosote bush series is a common vegetation series from the Mojave Desert Floristic Province. The creosote bush is common in the Eureka Valley allotment and less common in the South Oasis Allotment. A single creosote bush occurs in Deep Springs Valley. The dominant vegetation in the allotments is a Great Basin shrub series. Common species include spiny menodora (*Menodora spinescens*), winter fat (*Krascheninnikovia lanata*), spiny hop sage (*Grayia spinosa*), shadscale (*Atriplex confertifolia*), bud sage (*Artemisia spinescens*), desert needlegrass (*Achnatherum (Stipe) speciosa*), indian ricegrass (*Achnatherum (Oryzopsis) hymenoides*), galleta grass (*Pleuraphis (Hilaria) jamesii*), fluffgrass (*Erioneuron pulchellum*), needle and thread (*Hesperostipa (Stipa) comata*) and varied bluegrass (*Poa secunda*). At the upper elevations around the edges of the valleys, where there is more moisture, species such as big sage (*Artemisia tridentata*), desert bitterbrush (*Purshia tridentata* Var. *glandulosa*) and joshua trees (*Yucca brevifolia*) are found. The Joshua tree woodland was found to be the most productive vegetation series in the CDCA Plan forage inventories.

The main vegetation component in the Eureka Valley Allotment is a creosote bush shrub series. However, there is little perennial forage production. Ephemeral vegetation makes up nearly all of the available forage in the allotment. As a result, the Eureka Valley Allotment is classified as an ephemeral allotment in the CDCA Plan. The annual (ephemeral) vegetation is extremely variable in biomass production, ground cover and species composition year to year and site to site. Ephemeral biomass production is zero in most years, but in a good year (adequate precipitation, temperature and proper timing), biomass productions will range between 500 and 1000 pounds per acre. This has occurred twice in the past 13 years. Species composition is tied to germinating conditions. There is some indication that perennial shrub cover has diminished in the Eureka Valley area, possibly due to draught conditions.

Most plants in the allotments are growing-renewable resources which can tolerate some level of use on a sustained basis. Annual (ephemeral) plant species are the most tolerant of grazing. They will continue to thrive as long as they have been allowed to set seed and the site has not been unduly modified. Many of the annuals can be completely consumed once the seed has dropped. The perennial plants have different needs that make them more susceptible to grazing. Much of the perennial plant's production is directed at maintenance of energy reserves which are necessary to sustain future years' initial growth and flowering. Of secondary importance is the production of seeds. This means that perennial plants need to maintain an adequate level of photosynthetic processes through the year until they go dormant. Grazing removes photosynthetic material and stored energy from plants. The amount of material that can be removed from a plant depends upon the species, the time of year, overall health of the plant and growing conditions (soil moisture and nutrients). This amount of a perennial plant that can be safely removed on a sustained basis is referred to as the proper use factor (PUF). It is expressed as a percent of the current year's growth that can be removed on a sustained basis. Each species has its own PUF. These can run from 50% for some grass species to 10% or less for some shrub species. These PUFs were developed for more average years and should be considered excessive in draught years. The CDCA Plan and NEMO amendments contains PUFs and guidance that exceedances of the PUFs would lead to moving or removing of livestock.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative:

Livestock use impacts vegetation directly through removal by grazing and/or browsing and by trampling. A number of factors affect the impact of cattle on vegetation. These factors include (1) vegetation characteristics such as palatability of the plants, which varies seasonally, the response of the plant to grazing (increaser, decreaser or invader), phenology, the physical characteristics of the plant, distribution of the plants and abundance of desirable plants, (2) factors which affect accessibility such as slopes, distance from water and terrain, (3) grazing animal characteristics such as aggressiveness in working steep terrain, nutritional needs and preference for certain species, and (4) management factors such as choice of livestock type, management structures, moving animals, season of use, stocking rates and the use of salt and other supplements. Indirect impacts to vegetation occurs through the modification of the rangeland both biologically and physically which may change dominance, eliminate some species, change germination conditions, remove sheltering, reduce seedling survival and allow invasive weeds to encroach into the area.

Each of these allotments has proposed grazing using different grazing strategies resulting in different impacts. Grazing occurs in the Eureka Valley Allotment as a result of drift from the unfenced South Oasis Allotment during good ephemeral years (2 out of 13 years). There is no water in the allotment and the cattle rely on the moisture they derive from the vegetation and water sites 3 miles away in the South Oasis Allotment. This results in very light grazing use over most of the Eureka Valley Allotment. In addition, the majority of the use would occur only during the spring time in years when green ephemeral feed existed. It is unlikely light grazing once every six years would impact perennial forage species in the Eureka Valley.

The health assessments for both the South Oasis and Deep Springs Allotments indicate that the current grazing is resulting in favorable conditions. The rotational grazing system being practiced on the Deep Springs is resulting in some increases in the perennial grass component at some sites. Even though the South Oasis Allotment currently meets health standards, changing the season of use to avoid the critical spring growing season would likely result in increases in the perennial grass cover. The South Oasis AMP recommended some cross fencing, additional water developments and rotating the grazing use. Some or all of these actions could help alleviate problems with heavy use noted around several water sites. The Deep Springs and South Oasis Allotments would continue to meet health standards as a result of the proposed action.

b. Impact of the No Action Alternative:

Impacts from the no action alternative would be similar to the proposed action.

c. Impacts of No Grazing Alternative:

No annual or perennial vegetation would be trampled or removed by cattle. There would not be any expected large scale changes in vegetation composition on an overall basis. Cover and vigor of key forage species could occur at high use sites.

V. CUMULATIVE IMPACTS

There are a number of resource disturbing activities in the region. Many of these are documented in the NEMO EIS (USDI BLM 2005a) and are incorporated by reference. These include paved and unpaved roads, farming, mining, rights-of-ways, residential and commercial development and livestock grazing. The roads, farming, mining, rights-of-ways and development activities tend to be permanent dedication of sites and constitute a total loss of the site productivity. Mining in the area dates back to the late 1800s and continues to today. These allotments have seen over 130 years of grazing. In the 60 years prior to the Taylor Grazing Act (1934), large herds of both cattle and sheep used the area with no regulation.

| Land use -> Resource | Proposed Action | No Action | No Grazing | Paved Roads | Unpaved Roads | Farming | Mining |
|----------------------------------|--|--|--|---|--|--|---|
| Air Quality | less than 0.01 % of regional PM 10 emissions No long term impact | less than 0.01 % of regional PM 10 emissions No long term impact | No impact | 1% of regional PM10 emissions | 20 % of Regional PM 10 emissions | less than 0.1 % of regional emissions in 2005 | 0.5 % of regional emissions |
| Biological Soil Crusts | Minimal impact | Minimal impact | No impact | Paved roads are a total dedication of resources | unpaved roads are a total dedication of | Total dedication of site for use | Casual use also some Sand and Gravel represent partial to total loss of habitat |
| Cultural Resources | Non renewable | | | | | | |
| Flood Plains | No effect | No effect | No effect | Roads can concentrate water and direct flows | Roads can concentrate water and direct flows | Most farming in area in flood plains | No effect |
| Invasive, Non- Native Species | Non-native invasive species favor intense use sites (under 10 acres) Historic heavy use | Non-native invasive species favor intense use sites (under 10 acres) Historic heavy use | Historic use sites will recover to resemble surrounding specie mix and densities | Roadsides and associated maintenance are a major vector for introduction and spread of new species | Roadsides and associated maintenance are a major vector for introduction and spread of new species | Intense use sites favor some non- native invasive species | Intense use sites favor some non- native invasive species Construction equipment is a major vector for introduction and spread of new species |
| Soils | small surface disturbance especially in concentration areas | small surface disturbance especially in concentration areas | none | Paved roads are a total dedication of resources | unpaved roads are a total dedication of resources | Total dedication of site for use | Casual use also some Sand and Gravel represent partial to total loss of soils |
| Special Status Plants Species | some potential | Some porential | No potenial | none any new construction would require Environmental | many occurances are along unpaved | many occurances are along unpaved | No observed Impacts from current mining |

| | | | | | | | |
|---------------|--|--|------|---------------------------|---|--|--|
| | | | | Clearances | roads where they have less competition and more moisture | roads where they have less competition and more moisture | |
| Water Quality | None | None | None | some from runoff | some from runoff and surface erosion, also channeling water | Possible from agricultural chemicals in Fish Lake Valley | Possible from toxics and erosion |
| Vegetation | Moderate impact to renewable vegetation recovery in one growing season Historic use heavier | Moderate impact to renewable vegetation recovery in one growing season Historic use heavier | none | total dedication of sites | total dedication of sites | can result in long term total dedication of site | can result in long term total dedication of site |

Air Quality

The cumulative effect area for air resources for is the Great Basins Valleys Air Basin. The measure of cumulative emissions is reflected in concentrations measured at a series of monitoring stations located in the region. The area is currently unclassified for all of the NAAQS. There are few sources of emissions in the Deep Springs/South Oasis allotment area. These sources include area sources such as farming, travel on paved and unpaved roads and mobile sources such as vehicles (ARB 2006b). All of these sources combined have not resulted in exceedances of the national air quality standards (NAAQS). The expected emission levels are within the cumulative NAAQS 24 hour and one year PM2.5 and PM10 emission standards and the one and eight hour ozone emission standards and are not likely to result in or contribute to exceedances of the National Ambient Air Quality Standards.

Soil Crusts

There are a number of soil disturbing activities in the allotment areas. These include paved and unpaved roads, farming, rights-of-ways and livestock grazing. The roads and rights-of- tend to be permanent dedication of sites and constitute a total loss of the crustal community. Grazing activities are low intensity, short term activities and allow for yearly recovery. Evidence indicates that the complex crust communities that exist in the area will continue with grazing and the allotments will continue to meet health standards for soil crusts.

Invasive non-native species

There are a number of activities that result in site modifications and/or are vectors to move invasive/non-native species. Construction activities can disturb large areas and construction equipment is a well known carrier of seeds as it moves from infested areas to non infested area. The Ridgecrest Field Office Integrated Weed Management Plan includes a weed prevention section that addresses cleaning construction equipment to avoid contamination (BLM 2006b). Road maintenance moves seeds along the road sides as it progresses. Fill used for maintenance can contain seeds. Several new exotic species are following roads into and through the desert. Cattle use at

intense use sites such as corrals and watering sites can cause conditions that favor some invasive non-native species. Experience and observations in these allotments indicate that these will be preexisting sites and the species will already be there. None of these alternatives would result in significant impacts from invasive non-native species.

Soils

The existing grazing activities would contribute little to any soil losses occurring on a regional basis. Many of the existing grazing intense use sites have been used for many years. Most of the regional erosion problems come from poor drainage on and adjacent to roads and rights-of ways.

Special Status Plants

A number of activities in the region potentially could impact Special Status Plants. These include roads, rights-of-ways, farming and grazing. Many of these activities result in total habitat destruction. As there is only one special status plant in the area and it occurs away from most activities, the threat is very small. Cattle grazing is more likely to cause the loss of individual plants rather than habitat. The special status plants have coexisted with cattle grazing for over 100 years.

Water

There are a number of activities in the region which could degrade water quality. Grazing represents only a very small portion of the non-point-source pollution in the watersheds. Other sources include paved and unpaved roads, rights-of-ways, farming and highway construction. The implementation of grazing BMPs or the elimination of grazing would not change the impaired classification for the watersheds. Most of the regional sediment problems come from poor drainage on and adjacent to highways, roads, trails and rights-of-ways.

Vegetation

Grazing activities are short duration and allow for yearly recovery. Grazing consumes a portion of the renewable production and the rest and restrictions on use allow for recovery. Grazing is one of several land uses that result in impacts to vegetation. Other impacting uses include paved and unpaved roads, rights-of-ways and farming. All of these uses result in a total removal of vegetation from areas. The removal of grazing would still allow the other uses to continue to impact vegetation.

Cultural Resources

The degree of potential cumulative impacts and effects to cultural resources, to a large degree, depends upon which allotment is at issue. The size, location relative to the prehistoric and historic uses of it, along with other BLM approved uses within the allotment, all factor into the cumulative determinations.

Allotments such as Deep Springs, South Oasis, and Eureka Valley share common characteristics in terms of terrain and vegetation patterns. They also share a similar ethno-history and livestock ranching history during the 1800s. While not yet quantified, there are on-going and increasing OHV uses occurring within these allotments. When added to the effects of OHV use within these six allotments, those adverse effects that could potentially be caused by sheep grazing associated with the proposed action do not contribute significantly to any increased adverse cumulative effects upon cultural resources.

Native American Concerns

The combination of grazing and other activities in the area, such as electrical power transmission lines, and their associated access roads, along with recreation OHV activities within the area could reach significant levels. However, compared to these other on-going activities, the cumulative effects of grazing upon cultural resources would not be significant increase.

Socio-Economic

The loss of grazing privileges by any one ranch is probably negligible to the local economy as a whole. Cumulative impacts would be felt in the Bishop, California and Fishlake Valley, Nevada communities because they are traditional ranching communities and part of the traditional character of these communities would be jeopardized by the loss this entity.

Wetland Riparian

Cumulative impacts are visible at Antelope Spring where cattle have eroded the stream bank and widened the steam bed. The wetland area above the stream has been degraded by cattle trampling the soil and vegetation. However, this area should recover rapidly when protected from cattle impacts. Cumulative adverse impacts from past grazing are visible at Willow Spring in the Last Chance Allotment. Cattle have not grazed there for several years, and the spring is recovering. If the spring is fenced, there will be no cumulative adverse impacts from grazing.

Wildlife

The following actions will lead to beneficial cumulative impacts: 1)BLM will monitor the dune area for the impacts of cattle, and if necessary, cattle will be excluded from the dune to prevent trampling and degradation of dune habitat. 2) BLM plans to fence Antelope Spring to prevent degradation of riparian and aquatic habitat that the black toad is using. 3)BLM will monitor livestock use in both riparian areas and upland areas, and will identify any over-grazing. Appropriate protective measures will be taken. 4) BLM will conduct annual utilization studies to assure that adequate forage exists for wildlife species. 5) BLM will conduct Rangeland Health Assessments.

No adverse cumulative impacts were identified in the other allotments.

Wilderness

Under the proposed action, adverse impacts would not likely to be expected. Maintaining standards for rangeland health as well as limiting the use of motorized and mechanized equipment should continue to maintain wilderness values and any future, potential impacts would be non-significant

Wild Horse and Burro

The cumulative impacts of renewing the grazing permits should not affect the wild horses and burros with the current forage allocations for all species. However, the cumulative impacts by fencing projects, may have impacted the free-roaming nature of wild horses and burros.

APPENDIX 1
ALLOTMENT MAP

APPENDIX 2

CONSULTATION, COORDINATION, & COOPERATION

Below is listed the CCC with the permittee/lessees and other interested public that have been contacted for this action.

May 6, 2004: Notice of Proposed Action (NOPA) sent out to affected interests and interested public. The NOPA covered Deep Springs, South Oasis, Eureka Valley and Last Chance allotments which encompass wilderness areas.

Affected Interests:

June 30, 2004: Chapters 1 & 2 and a letter sent to all sheep operators asking for comments and input to the Deep Springs, South Oasis, Eureka Valley and Last Chance Environmental Assessment (Deep Springs EA).

August 25, 2004: Chapters 1 & 2 of Deep Springs EA sent to lessee.

September 30, 2004: Deep Springs EA (all four chapters) and proposed decision sent to lessee.

March 3, 2006: Notice of vacated decision on proposed decision of September 2004 sent out from Ridgecrest Field Office to lessee.

April 7, 2006: Revised Deep Springs EA mailed out for 30 day comment period to lessee.

Interested Public:

August 10, 2004: E-mail from Center for Biological Diversity (CBD) asserting that they and another member of the interested public had not been included in the previous mailing were being denied their right to review Chapters 1 & 2.

August 18, 2004: Chapters 1 & 2 of EA sent to CBD and Western Watersheds Project (WWP).

August 25, 2004: Chapters 1 & 2 of Deep Springs EA sent to all interested public.

September 24, 2004: Comments from California Native Plant Society received at Ridgecrest Field Office.

September 30, 2004: Deep Springs EA (all four chapters) and proposed decision sent to all interested public for comment and protest.

October 14-18, 2004: Document dated Oct. 14th from WWP received at Ridgecrest Field Office. Document contained comments and protests on Deep Springs EA.

October 15, 2004: Comments and protests on Deep Springs EA by CBD received at Ridgecrest Field Office.

March 3, 2006: Notice of vacated decision on decision of September 2004 sent out from Ridgecrest Field Office.

April 7, 2006: Revised Deep Springs EA mailed out for 30 day comment period to all interested public.

May 10-14, 2006: Documents dated May 10th from CBD and WWP received at Ridgecrest Field Office. Documents contained comments on Deep Springs EA.

Government Agencies:

September 30, 2004: Deep Springs EA (all four chapters) and proposed decision sent to all government agencies for comment and protest.

March 3, 2006: Notice of vacated decision on proposed decision of September 2004 sent out from Ridgecrest Field Office to all government agencies.

April 7, 2006: Revised Deep Springs EA mailed out for 30 day comment period to all government agencies.

APPENDIX 3

PROPER USE FACTORS
FOR FORAGE SPECIES

PROPER USE FACTORS FOR FORAGE SPECIES

IN THE RIDGECREST FIELD OFFICE AREA

Proper Use Factors (P.U.F.'s) are related as a percentage of plant that is allowed to be grazed. Usually an average is taken from sampling a local population at a site. These P.U.F.'s are taken from the CDCA Plan of 1980. Under the No Action alternative P.U.F.'s for key perennial forage species are used as guidelines for utilization. When the Regional Standards and Guidelines become effective with the signing by the Secretary of Interior the P.U.F.'s of key forage perennial species will still be used to measure utilization.

| Plant- Scientific Name | Common Name | P.U.F. |
|--------------------------------------|---------------------------------|--------|
| TREES & SHRUBS | | |
| <i>Acamptopappus sphaerocephalus</i> | Goldenhead | 10 |
| <i>Ambrosia dumosa</i> | Burrobush | 10 |
| <i>Artemesia spinescens</i> | Budsage | 20 |
| <i>Artemesia tridentata</i> | Great Basin Sage | <5 |
| <i>Atriplex canescens</i> | Four-wing Saltbush | 40 |
| <i>Atriplex confertifolia</i> | Shadscale | 10 |
| <i>Atriplex hymenelytra</i> | Desert Holly | <5 |
| <i>Atriplex polycarpa</i> | Cattle Spinach | 20 |
| <i>Chrysothamnus nauseosa</i> | Rubber Rabbit Brush | <5 |
| <i>Chrysothamnus viscidiflorus</i> | Green Rabbit Brush | <5 |
| <i>Coleogyne ramosissima</i> | Blackbrush | <5 |
| <i>Encelia farinosa</i> | Brittlebrush | <5 |
| <i>Ephedra nevadensis</i> | Nevada joint fir, Mormon Tea | 30 |
| <i>Ephedra viridis</i> | Mountain joint fir | 20 |
| <i>Ericameria cooperi</i> | Goldenbush | 0 |
| <i>Ericameria linearifolius</i> | Linear-leaved Goldenbush | <5 |
| <i>Eriogonum fasciculatum</i> | California buckwheat | 20 |

| | | |
|--|--------------------|----|
| <i>Eriogonum wrightii</i> | Wright's buckwheat | 40 |
| <i>Grayia spinosa</i> | Spiny Hopsage | 30 |
| <i>Gutierrezia sarothrae</i> | Snakeweed | 0 |
| <i>Hymenoclea salsola</i> | Cheesebush | <5 |
| <i>Isomeris arborea</i> | Bladder-pod | 10 |
| <i>Juniperus californica</i> | California Juniper | 0 |
| <i>Juniperus occidentalis</i> | Western Juniper | 0 |
| <i>Juniperus osteosperma</i> | Utah Juniper | 0 |
| <i>Krascheninnikovia lanata</i> | Winter Fat | 40 |
| <i>Larrea tridentate</i> | Creosote bush | 0 |
| <i>Lepidium fremontii</i> | Desert Alyssum | <5 |
| <i>Lepidospartum squamatum</i> | Scale-broom | <5 |
| <i>Lycium andersonii</i> | Anderson thornbush | 10 |
| <i>Lycium cooperi</i> | Peach thornbush | 10 |
| <i>Machaeranthera tortifolia</i> | Desert aster | 20 |
| <i>Menodora spinescens</i> | Spiny menodora | 20 |
| <i>Opuntia basilaris</i> | Beavertail cactus | 0 |
| <i>Psoralea fremontii</i> | Indigo brush | 10 |
| <i>Salazaria mexicana</i> | Paperbag bush | 10 |
| <i>Salix lavaegata</i> | Red Willow | 10 |
| <i>Salvia dorii</i> | Purple Sage | 10 |
| <i>Senna armata</i> | Desert cassia | <5 |
| <i>Stephanomeria pauciflora</i> | Desert Straw | 30 |
| <i>Tetradymia spinosa</i> var. <i>longispina</i> | Cotton felt-thorn | 0 |
| <i>Yucca brevifolia</i> | Joshua tree | <5 |

FORBS

| | | |
|----------------------------|---------------|----|
| <i>Mirabilis bigelovii</i> | Wishbone bush | 40 |
| <i>Sphaeralcea ambigua</i> | Desert Mallow | 40 |

GRASSES

| | | |
|-------------------------------|--------------------|----|
| <i>Achnatherum hymenoides</i> | Indian Rice Grass | 50 |
| <i>Achnatherum speciosa</i> | Desert Needlegrass | 50 |
| <i>Distichilis spicata</i> | Saltgrass | 30 |
| <i>Erioneuron pulchellum</i> | Fluffgrass | 20 |
| <i>Hilaria jamesii</i> | Galleta grass | 50 |
| <i>Poa scabrella</i> | Pine bluegrass | 50 |
| <i>Sitanion hystrix</i> | Squirrel-tail | 40 |
| <i>Sporobolus airoides</i> | Alkali Sacaton | 40 |

References:

1. Appendix XIII, Volume F of Final Environmental Impact Statement and Proposed Plan for the California Desert Conservation Area, Sept. 1980
2. Plant Checklist for BLM Ridgecrest, CA Field Office Area, 2006

APPENDIX 4

RANGE IMPROVEMENTS

Appendix 4: Range Improvements for Deep Springs and South Oasis. There are no range improvements in Eureka Valley. N.F. = No File

Deep Springs Allotment

| RI# | Project | Location | Condition & Comments | Mitigation Description |
|----------|-------------------------------------|-------------------------|------------------------------|--|
| 5222 | Deep Springs Well | T8S, R36E, s7, NENE | Solar Submersible pump? | |
| 5242 | West Valley Well | T7S, R36E S9 | Submersible pump (not solar) | |
| 5370 | Payson Pipeline & Troughs | T7S, R35E, s24, | Functioning | |
| 5372 | Deep Springs Pipeline | T7S, R36E, s11, SWSE | Abandoned | |
| 5425 | White Mtn. Troughs | T6S, R36E, s25, NESW | Abandoned | |
| 5498 | Deep Springs College Fence | T7S, R36E, s32, SWSW | Functioning | |
| 5499 | Deep Springs Lake Fence & Addition | T8S, R35E, s12, NWSE | Functioning | |
| 5507 | White Sage Exclosure | T7S, R36E, s10, SWSE | Functioning | |
| 5508 | Salt Brush Exclosure | T6S, R36E, s35, SWNE | Functioning | |
| 5509 | Water Brush Exclosure | T7S, R35E, s24, NWSE | Functioning | |
| 5565 | Deep Springs Highway Electric Fence | T7S, R35E S26&R36E S3 | Functioning | |
| 5569 | So. Deep Springs Valley Fence & CG | T7S, R36E, s32, NESW | Functioning | |
| 5638 | Deep Springs CG | T7S, R36E, s3, SESE | Functioning | |
| 5649 | Deep Springs Lake Road | T7S, R36E, s1, NENE | Functioning | |
| 5564 | Deep Springs Electric Fence | | | |
| Proposed | Mid-Valley Electric Fence | T7S, R36E, S21, 22 & 23 | | Create another pasture for better distribution of Cattle-May use recoillable fence in wilderness |

South Oasis Allotment

| RI# | Name | Landline | Condition & Comments | Mitigation Description |
|------|---|---------------------------------------|---------------------------------------|--------------------------------|
| 5086 | One Tub Spring | T6S, R37E, s21, NENE | Functioning | |
| 5087 | Two Tub Spring | T6S, R37E, s33, SENW | Functioning | |
| 5223 | Sugar Loaf Well | T7S, R37E, s24, NENW | Functioning | |
| 5234 | Fish Lake Valley Well, Pipeline & Storage | T6S, R38E, s1, NWNW w/ Oasis | Functioning Storage Functioning | |
| 5365 | Fish Lake Valley Well Pipeline Ext. | T6S, R38E, S5, NWNW | Needs Repair | |
| 5420 | SE Oasis Pipeline & Trough (proposed) | | | Improve Distribution of Cattle |
| 5421 | NE Oasis #1 Pipeline & Trough | T6S, R38E, S7, SESE | Not Functioning | |
| 5422 | NE Oasis #2 Pipeline & Trough | T6S, R38E, s18, NWNE | Not Functioning | |
| 5423 | Piper Mtn. Troughs | T6S, R37E s22 | ? | |
| 5492 | South Oasis Exclosures | T6S, R 37 & 38E, s1, 7, 19 | ? | |
| 5496 | Alexis Fence & Gates | T6S, R37 & 38E, s1 & 6 | Functioning | |
| 5497 | Fish Lake Valley Fence | T6S, R38E, s30, NENE w/ Oasis & LC | Functioning | |
| N.F. | | | | |
| 5483 | North Fish Lake Valley Fence | | | |
| 5485 | Central Fish Lake Valley Fence | | | |
| 5486 | Piper Mtn. Drift Fence | | | |
| 5614 | So. Oasis | | | |

| | | | | |
|------|-----------------------------------|--|--|--|
| | Corral | | | |
| 5677 | North Fish Lake Valley CG | | | |
| 5678 | Central Fish Lake Valley CG | | | |

APPENDIX 5

LIVESTOCK GRAZING AMENDMENT

SUPPLEMENTAL PROCEDURES FOR LIVESTOCK GRAZING PERMIT/LEASE RENEWALS

A CULTURAL RESOURCES AMENDMENT
TO
THE STATE PROTOCOL AGREEMENT

BETWEEN

CALIFORNIA BUREAU OF LAND MANAGEMENT
AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

The purpose of this amendment is to address the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing approximately 400 grazing permit/lease (hereafter “permit”) renewals scheduled for 2004 through 2008. This amendment shall cover grazing permit renewals for livestock as defined in 43 CFR 4100.0-5 as “...domestic livestock – cattle, sheep, horses, burros, and goats.” The following procedures will allow for renewal of the permits while maintaining compliance with the NHPA. Alternative approaches to this amendment may be developed by individual Field Offices, but such approaches shall fall under the Section 106 regulations of the NHPA (36 CFR Part 800) and shall require individual Field Office consultation with the SHPO.

These supplemental procedures are an amendment to the State Protocol dated April 6, 1998, which is scheduled for termination on October 25, 2004. These supplemental procedures will remain in effect when that Protocol is terminated and will become an amendment to a successor Protocol document.

This amendment deviates from the Protocol in *Section VI. Thresholds for SHPO Review*, which states, “BLM shall complete the inventory, evaluation and assessment of effects and document all findings, including negative inventories and no effect determinations, in BLM files before proceeding with project implementation.” This amendment would allow for renewal of an existing grazing permit prior to completing all NHPA compliance needs as long as Protocol direction, the BLM 8100 Series Manual guidelines (Protocol Amendment F), and the following specific stipulations are followed:

I. Planning

Grazing permit renewals of any acreage size shall be scheduled for cultural resource compliance coverage over the next ten years. Such long term management includes scheduling for inventory, evaluation, treatment, and monitoring, as appropriate. Schedules for inventories of all renewals to be covered by this amendment shall be delineated by each participating Field Office and submitted to the SHPO and the State Office at the first annual reporting cycle for FY 2004.

This amendment shall only apply to the reissuance of grazing permit authorizations and existing range improvements. All new proposed undertakings for range improvements shall follow the

established procedures within the Protocol or 36 CFR 800, the implementing regulations for Section 106 of NHPA.

II. Inventory Methodology

To address the impacts of grazing on cultural resources, a Class II sampling or reconnaissance survey strategy shall be devised by the cultural resource specialist in consultation with range staff which focuses inventory efforts on areas where livestock are likely to concentrate within areas of high sensitivity for cultural resource site locations. Congregation areas where it has been shown that the greatest levels of impact are likely to occur are generally around springs, water courses, meadows, and range improvement areas such as troughs and salting areas.

All existing range improvements within areas of high sensitivity for the location of cultural resource sites shall be inventoried. However, due to the fact that cattle trailing occurs along fence lines and the area of impact is limited to a one meter wide swath and impacts to cultural resources are generally restricted to this corridor, existing linear improvements will not be inventoried except in areas of high sensitivity for the location of cultural resource sites.

Salting areas may change from season to season making locating these areas problematic. Salting locations will be assessed by the cultural resource specialist in consultation with range staff and the permittee. The permittee will be asked to provide a map designating salting areas and these locations will be inventoried if they occur in areas where the probability for the occurrence of cultural resources is high. All livestock loading and unloading areas and corral areas will also be inventoried within areas of high sensitivity for the location of cultural resources.

A Class I records search will also be conducted for each allotment to ascertain previously recorded site locations and areas of prior survey coverage which can be accepted as meeting current standards. Sites located within livestock congregation areas will be visited to evaluate grazing impacts.

All areas identified for inventory in the survey strategy shall be covered intensely. All unrecorded site locations will be recorded and a report of findings for each allotment will be completed. These investigations shall only address public lands administered by BLM. Private, state and county in-holdings will not be evaluated.

III. Tribal and Interested Party Consultation

Field Offices will be responsible for contacting and consulting with Tribes and interested parties as outlined in 36 CFR 800 and the 8120 manual guidelines. This will also meet BLM government-to-government responsibilities for consultation.

IV. Evaluation

Determinations of eligibility to the National Register of Historic Places shall only be undertaken on sites or properties where it can be reasonably ascertained or it is ambiguous that range activities will continue to impact sites and further consultation with SHPO could be required.

V. Effect

A. Range undertakings where historic properties are not affected may be implemented under the Protocol without prior consultation with SHPO. These undertakings shall be documented in the Protocol Annual Report.

B. Range undertakings where historic properties are identified within APEs, and where historic values are likely to be affected or diminished by project activities, require consultation with SHPO, and ACHP if necessary, on a case-by-case basis, pursuant to 36 CFR 800.5-6.

VI. Treatment

Standard Protective Measures can include but are not limited to:

A. Fencing or enclosure of livestock from the cultural resource sufficient to ensure long-term protection, according to the following specifications:

1. the area within the enclosure must be inventoried to locate and record all cultural resources; and
2. the enclosure (i.e.) fence must not divide a cultural resource so that a portion is outside of the fence; and
3. the cultural resource specialist will determine the appropriate buffer to be provided between the cultural resource and its enclosing fence.

B. Relocation of livestock management facilities / improvements at a distance from cultural resources sufficient to ensure their protection from concentrated grazing use.

C. Removal of natural attractants of livestock to a cultural resource when such removal, in the judgment of the cultural resource specialist, will create no disturbance to the cultural resource (e.g. removing vegetation that is providing shade).

D. Removal of the area(s) containing cultural resources from the allotment.

E. Livestock herding away from cultural resource sites.

F. Use salting and/or dust bags or dippers placement as a tool to move concentrations of cattle away from cultural sites.

G. Locating sheep bedding grounds away from known cultural resource sites.

H. Other protective measures established in consultation with and accepted by SHPO.

The Standard Protective Measures defined above may be used to halt or minimize on-going damage to cultural resources. If the standard protection measures can be effectively applied, then no evaluation or further consultation with SHPO on effects will be necessary. The adopted Standard Protective Measures shall be added to grazing permit "Terms and Conditions" as appropriate for each grazing permit issued or reissued as fully processed permits (completed NEPA analysis, consultation, and decision). The "Terms and Conditions" for each permit may

be modified by the addition, deletion, or revision of Standard Protective Measures as described in Section VII of these Supplemental Procedures.

VII. Monitoring

A. Field Offices shall adopt the following monitoring guidelines:

1. monitoring shall be conducted yearly and documented to ensure that prescribed treatment measures are effective; and
2. when damaging effects to cultural resources from grazing activities are ambiguous or indeterminate, Field Offices shall conduct monitoring, as necessary, to determine if degrading effects are resulting from grazing activities and if they are continuing to affect the characteristics that may make properties eligible to the NRHP or if they are otherwise adversely affecting the values of cultural resources.

B. When monitoring has yielded sufficient data to make effect determinations, the following apply:

1. When no additional degrading damage will likely occur because standard treatment measures are adequate to prevent further damage from rangeland management activities, SHPO consultation on a case-by-case basis is unnecessary.
2. When no additional degrading damage will likely occur, even without implementation of standard treatment measures, then no further treatment consideration of those resources is necessary, even if past grazing impacts to the ground surface are evident.
3. When additional degrading damage will likely occur, mitigation of adverse effects shall be addressed on a case-by-case basis, pursuant to 36 CFR 800.5-6.

When monitoring results or case-by-case consultation result in a determination concerning addition or deletion of Special Treatment Measure(s) for a specific allotment, then that Measure(s) will be added to, or deleted from, the Terms and Conditions of the fully processed permit for that allotment.

VIII. Disagreements

When a Field Office Cultural Heritage staff and Field Office Manager fail to agree on inventory, evaluation, monitoring, and application of Special Treatment Measures, then the Field Office Manager shall initiate consultation with the SHPO.

IX. Reporting and Amending

A. Each participating Field Office shall report annually to the SHPO and the State Office, a summary of activities carried out under this amendment to the Protocol during the previous fiscal year. The reporting shall be included in the Protocol Annual Report.

B. Annual reports shall summarize activities carried out under this amendment. These reports are not meant to be compilations of the individual project reports prepared for the range projects; they are meant to be programmatic summaries of data and significant findings.

C. Annual reporting shall include at least three major sections:

1. schedules and status of accomplishments in meeting schedules for cultural resource activities in relation to the range management program as identified in Stipulation I; and
 2. results, as annual summaries of accomplishment and significant findings resulting from rangeland management cultural resource activities; and
1. appendices to the report that would include project, coverage and cultural resource location maps and tabular summaries of total number of cultural resources located, new cultural resources located, cultural resources evaluated, types of treatment measures employed at each location, and cultural resources monitored.

D. Annual reports may contain recommendations for new or revised treatment measures.

E. Either party to this agreement may initiate a process to negotiate new or revised treatment measures or to revise the schedule of inventories. When such a process is initiated, the parties to this agreement shall negotiate new or revised treatment measures or schedule of inventories and such revisions or additions shall be issued as Attachments to these Supplemental Procedures.

STATE DIRECTOR, BUREAU OF LAND MANAGEMENT, CALIFORNIA

/s/ james wesley abbott for

By Mike Pool

Date: 8/17/04

STATE HISTORIC PRESERVATION OFFICER, CALIFORNIA

/s/ milford wayne donaldson

By Milford Wayne Donaldson

Date: 8/18/2004

REFERENCES

References for Wildlife

Busack, S.D., and R.B. Bury. 1975. Toad in Exile. The Environ. Journal. March 1975:15-16. California Department of Fish and Game. California Interagency Wildlife Task Group. <http://www.dfg.ca.gov/whdab/html/A031.html>

Giuliani, D. correspondence with the BLM: e-mail July 2002.

Murphy, J. F., E.T. Simandle, and D.E. Becker. 2003. Population Status and conservation of the Black Toad , Southwestern Naturalist 48:54-60.

References for Air Quality, Biological Soil Crusts, Invasive Species, Soils, Special Status Plants, Water Quality, & Vegetation

ARB. 1991. Prospects for Attaining the State Ambient Air Quality Standards for Suspended Particulate Matter (PM₁₀), Visibility Reducing Particulates, Lead, and Hydrogen Sulfide. California Environmental Protection Agency, Air Resources Board. Sacramento, CA

ARB. 1992. California's Air Pollution Control and Air Quality Management Districts. California Environmental Protection Agency, Air Resources Board. Sacramento, CA

ARB. 1993. California Air Pollution Control Laws. California Environmental Protection Agency, Air Resources Board. Sacramento, CA

ARB. 2001a. California's State Implementation Plan. At <http://www.arb.ca.gov/sip/siprev1.htm>. California Environmental Protection Agency, Air Resources Board. Sacramento, CA

ARB. 2001b. Fine Particulate Matter-PM_{2.5} Particulate Pollution-Charting a Course for Clean Air. At <http://www.arb.ca.gov/pm25/pm25.htm>. California Environmental Protection Agency, Air Resources Board. Sacramento, CA

ARB. 2003a. Air Pollution- Particulate Matter Brochure. At <http://www.arb.ca.gov/html/brochure/pm10.htm>. California Environmental Protection Agency, Air Resources Board. Sacramento, CA

ARB. 2003b. Air Quality Emissions and Modeling. At [Http://www.arb.ca.gov/html/ae&m.htm](http://www.arb.ca.gov/html/ae&m.htm). California Environmental Protection Agency, Air Resources Board Sacramento, CA

ARB. 2006a. Area Designations. At <http://www.arb.ca.gov/desig/desig.htm>. California Environmental Protection Agency, Air Resources Board Sacramento, CA

ARB. 2006b. California Air Quality Data. At <http://www.arb.ca.gov/aqd/aqdpagalt.htm>. California Environmental Protection Agency, Air Resources Board Sacramento, CA

ARB. 2006c. 2005 Estimated Annual Average Emissions. At <http://www.arb.ca.gov/ei/maps/basins/abmdmap.htm>. California Environmental Protection Agency, Air Resources Board Sacramento, CA

ARB. 2006d. California Almanac of Emissions and Air Quality. At http://www.arb.ca.gov/app/emsinv/t25cat/cat_top25.php. California Environmental Protection Agency, Air Resources Board Sacramento, CA

Belnap, Jane and O. L. Lange. 2003. Biological Soil Crusts: Structure, Function and Management. Springer, New York

Belnap, J. 2005. Personal communication

Bossard, Carla C., John Randall and Marc C. Hoshovsky. 2000. Invasive Plants of California's Wildlands. University of California Press, Berkeley, CA

Bowers, Michael A., 1987, Precipitation and the Relative abundance of desert winter annuals: a 6-year study in the Mojave Desert, Journal of Arid Environments, 12, 141-149

Brooks, M. L. 1998. Ecology of a Biological invasion: Alien Annual Plants in the Mojave Desert. Dissertation, University of California, Riverside, CA

Burcham, Lee T. 1957. California Rangeland-An Historico-Ecological Study of the Range Resources of California. Division of Forestry. Sacramento, CA.

Calkins, David L. 1994. Personal communications. USEPA. San Francisco, CA

DeSalvio, Alan. 2003a. Personal communication. Mojave Desert Air Quality Management District. Victorville, CA

Federal Interagency Stream Restoration Working Group. 1998. Stream Corridor Restoration, Principals, Processes and Practices. The Federal Interagency Stream Restoration Working Group. USA

Hickman, James C. et al. 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley, CA

Johnson, Hyrum B. And Herman S. Mayeux. 1992. A View on Species Additions and Deletions and the Balance of Nature. Journal of Range Management. 45(4):322-333

MDAQMD. 1997. Emission Inventory Guidance. Mojave Desert Air Quality Management District. Victorville, CA

Ono, Duane. 2000. Personal communications, Great Basin Air Pollution Control District. Bishop, CA

RWQCB. 1994. Water Quality Control Plan for the Lahontan Region. California Regional Water Quality Control Board, Lahontan Region. South Lake Tahoe and Victorville, CA.

Sanders, Kenneth D. 1992. Can Annual Rangelands Be Converted and Maintained As Perennial Grasslands Through Grazing Management. Symposium on Ecology, Management and Restoration of Intermountain Annual Rangelands. Boise, ID

Sawyer, John O. and Todd Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, CA

SCAQMD, 1993a. Rule 403 Implementation Handbook. South Coast Air Quality Management District. Diamond Bar, CA

SCAQMD, 1993b. CEQA Air Quality Handbook. South Coast Air Quality Management District. Diamond Bar, CA

SWRCB, 1998. California Unified Watershed Assessment. California State Water Resource Control Board. Sacramento, CA

SWRCB, 2004. California Nonpoint Source Encyclopedia. California State Water Resource Control Board. At www.swrcb.ca.gov/nps/encyclopedia.html/. Sacramento, CA

USDI Bureau of Land Management. 1980a. Draft California Desert Conservation Area Plan and EIS. Riverside, CA

USDI Bureau of Land Management. 1980b. California Desert Conservation Area Plan. Riverside, CA

USDI Bureau of Land Management. 1980c. California Desert Conservation Area Plan Appendix XIII: Livestock Grazing., Riverside, CA

USDI Bureau of Land Management. 1990. South Oasis and Eureka Valley Allotment Management Plan. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USDI Bureau of Land Management. 1999a. Air Quality Conformity Analysis and Determination Process. Course Number 7000-06. NTC, Phoenix, AZ

USDI Bureau of Land Management. 1999b. Rangeland Health Determination for the South Oasis Allotment. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USDI Bureau of Land Management. 2001. Air Quality Conformity for Managers – Satellite Broadcast Course Number 7000-06BC. At <http://www.blm.gov/nstc/air/index.html> . National Science & Technology Center, Denver, CO

USDI Bureau of Land Management. 2001b. Biological Soil Crusts: Ecology and Management, Technical reference 1730-2. USDI Bureau of Land Management, Printed Materials Distribution Center, Denver, CO

USDI Bureau of Land Management. 2002. Final Environmental Impact Statement and Proposed Northern and Eastern Mojave Desert Management Plan; Amendment to the California Desert Conservation Area Plan. Riverside, CA

USDI Bureau of Land Management. 2006a. Draft Air Quality Handbook. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USDI Bureau of Land Management. 2006b. Ridgecrest Field Office Integrated Weed Management Plan. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USDI Bureau of Land Management. 2006c. Grazing Case Files. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USDI Bureau of Land Management. 2006d. Range Improvement Case Files. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USEPA. 1982. Grazing Nonpoint Source Control Strategy. Environmental Protection Agency, Region VIII, Denver, CO

USEPA. 1993. Federal Register Notice #5863213. Vol. 58, Number 228, P63213-63259. November 30, 1993. Washington D.C.

USEPA. 1997. PM-2.5 Composition and Sources. Prepared for FACA National and Regional Strategies Workgroup. Office of Air Quality Planning and Standards. At <http://www.epa.gov/ttn/oarpg/naaqsfin/> . Washington, DC

USEPA. 1999. Handbook for Criteria Pollutant Inventory Development, A beginner's Guide for Point and Area Sources. At <http://epa.gov/ttn/chief>. Washington, DC

USEPA. 2004a. National Management Measures to Control Nonpoint Source Pollution from Agriculture. At <http://www.epa.gov/owow/nps/agmm/index.html>. Washington, DC

USEPA. 2004b. Polluted Runoff (Nonpoint Source Pollution). At <http://www.epa.gov/nps/MMGI/Chapter2/ch2-2e.html>. Washington, DC

Whitson, Tom D., Larry C. Burrill, Steven A. Dewey, David W. Cudney, B. E. Nelson, Richard D. Lee and Robert Parker. 2000. Weeds of the West. Western Society of Weed Science.